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ANCIENT HORSESHOES DISCOVERED AT OXFORD, AND A SO-CALLED "HIPPOSANDAL" FOUND AT SPRINGHEAD, NEAR GRAVESEND, KENT.*

BY GEORGE FLEMING, F.R.C.V.S., ROYAL ENGINEERS.

THE subject of Horse-shoeing is one which possesses a high interest for the historian and archæologist; but most of all, perhaps, for the veterinary surgeon. For the historian and antiquary it owes its interest principally to the great influence the art of shoeing has exerted on the progress of civilization, and on the domestication, increased utilisation and perfecting of the most important creature ever reclaimed from a wild condition by man.

There can scarcely be a doubt that but for the invention of a rim of iron attached to this animal's hoofs by means of nails, the progress of Western civilization would be greatly behind what it is to-day; indeed, we can scarcely realise in what position affairs would now stand with mankind over a large portion of the earth's surface, had the services of the horse not been called into requisition early and almost universally; while those services would have been incomparably trifling—at least

* Read at the meeting of the Central Veterinary Medical Society, in December, 1876.

in moist countries with artificial roads—had the ingenuity of man not devised a simple and wonderfully efficient hoof-protection, such as that now employed, and which has in no respect been improved for many hundreds of years.

If we only look around us in the streets of this great city, or in those of any other of the busy towns and cities in this country, and reflect for a moment as to what would be the result of suddenly depriving all the horses of their shoes, and preventing their being shod again for a week or two, we shall come to the conclusion that the farrier's art is an essential item in the scheme of civilization and material progress, and that without it we should soon have our rate of speed checked. Indeed, it is not improbable that but for this humble but most useful art, the horse species in many countries would soon degenerate, and become even less valuable than it is in very primitive regions, where nothing has been done to improve it. What would our mammoth dray horse be without shoes? Why, after two or three hours' travelling he would only be fit for a soft paddock or strawyard—there to move at his leisure and be looked at, like an elephant in the Zoological Gardens. And what would become of our hunters, our heavily-weighted cavalry horses, and our harness horses which we breed to such perfection? They would simply die out, and we should have to trust to other means for traction and locomotion—means vastly inferior in some respects, and certainly less interesting in all.

To the veterinary surgeon the art of horse-shoeing is indeed extremely important, as it is closely related to the improvement and well-being of the horse, in that it ministers to the preservation of one of the most wonderful organs with which the anatomist and physiologist has to deal, and because that on the healthy condition of this organ depends the usefulness of this animal.

The history of this art scarcely yields in interest to many for which high claims have been made. In our "Horseshoes and Horse-shoeing" we have endeavoured to show how engrossing, instructive, and curious it is, and how intimately it is bound up with our own history.

We need not now enter upon a consideration of the result of

our investigations into the antiquity of the farrier's art. We have shown that many of the opinions with regard to the probable period when horses were first shod with iron shoes must be discarded, and that we may go back many centuries—to a pre-historical age almost—and find them much of the same shade and character that we see them to-day. On the continent of Europe they have been found with remains belonging to Celtic or Gaulic times, and in some instances probably to a distant pre-Roman period.

In this country it is continually stated, in books recognised as standard and trustworthy works of reference, that the art of horse-shoeing was introduced by William the Conqueror. This was the result of the researches of our own Bracy Clark—one of the most learned and original men the veterinary profession in Britain has produced. But our investigations demonstrate in the clearest manner, that long before the Normans—perhaps even before the Romans—invaded our island, horses were shod, and well shod, too; and that the farrier was an important personage, by virtue of the immense benefit he rendered the community, and more especially the kings and warriors, from whom he received special privileges. Our written evidence on this point is based, among other matters, on the laws of Howel the Good, which are only a revision, made at the very commencement of the tenth century, of laws that may have been in existence ages previously; our unwritten evidence is based on antiquarian "finds" in various parts of the country, the antiquity of which might be disputed if we did not have correlative testimony to guide us in the matter.

One of the strangest facts in connection with these ancient British, Gaulish, or Roman horseshoes, is their similarity in size and identity in workmanship. Their size is small—between four and five inches in diameter; they seldom weigh more than five ounces, and were evidently worn by very diminutive horses—probably twelve or thirteen hands in height. This universality in size of shoe would indicate that the breed of horses in these islands and on the Continent, in these primitive times, was generally small and light—something of the Exmoor, Dartmoor, Shetland, Kerry, and Welsh pony stamp.

With regard to workmanship, all the shoes I have examined, and which have been found in the Gaulic graves of Alesia, in ancient graves and other situations in Belgium, Switzerland, and Germany, as well as in this country, might have been forged by the same hand for the same animal; almost proving what has been suggested in the work referred to—that this art, like some

FIG. 2.

FIG. 3.

FIG. 4.

others of that early period, may have only been practised by the Druid priests, and these conformed to one universal standard. At a later period—as in the Saxon and Norman times in this country—we find several, and very diverse, kinds of horseshoes in use.

The characteristic features of this ancient shoe, besides its

smallness and lightness, are its undulating border, peculiar round nail-holes, socket for the head of the nail—which is very large, and a rolled calk. The undulating border is produced by the manner in which the long and wide oval cavity for the head of the nail has been made. The nail-holes are round, and generally six in number; though rarely a seventh is placed at the toe, in all likelihood to act as toe-clip—of which I have never been able to find a trace.

The nail-heads are very large, and stand as high above the shoe as the calk, so that when newly shod each foot had eight projections to seize the ground with. Owing to the largeness of the head, it was necessary to imbed its base in the shoe, to prevent its being twisted out. The nails appear to have been driven through the wall of the hoof, and their points merely turned down on the face of the wall (figs. 2, 3, 4).

All these characters and peculiarities you will find in the three specimens of shoes kindly presented to me by Mr. G. A. Rowell, under-keeper of the Ashmolean Museum, and which were recently found, with several others, during excavations at Oxford. I have examined the other shoes, which are like the specimens laid before you, except that one has a nail-hole at the toe, and is in excellent preservation. As the subject is one of so much interest, I cannot do better than quote what Mr. Rowell says with regard to their discovery and antiquity, his high reputation as an antiquary giving great value to his remarks. Writing to the *Oxford Times* in June last, under the heading of "Romano-Celtic Remains in Oxford," he says:—

"During the recent drainage works in Titmouse Lane (leading from the Canal Wharf to the Old Castle) several iron horse-shoes of a peculiar form were found at about fifteen feet below the surface. One, from a sort of clay not far from the Castle, is bronze-like in appearance, and, although somewhat worn, as bright as if just made; the others were from a mixed soil, and are more or less encrusted with it, but there is not a speck of rust on any of them, although it is probable they had been underground from Romano-British times.

"From Fleming's exhaustive work on 'Horseshoes and Horseshoeing,' it appears that neither the Greeks nor Romans, until a

century or two after the Christian era, shod their horses with metal, or at least with such shoes as were nailed to the feet; but that horseshoes similar to those now in question have been found, with the well-known celts and other bronze articles, in Celtic and Gaulic graves on the Continent and in Great Britain: all such horseshoes being small in size and similar in form, showing that the horses of these regions in those days were diminutive as compared with those generally used in later times. The quality of the iron of one shoe has been tested by Mr. Neill, of Cornmarket Street, who states that it is of the very best quality, and such as it would be difficult or hardly possible to procure in the metal market. The shoes (with a hoof-picker found with them, and in a similar condition) * will be deposited in the Ashmolean Museum.

"The following description of a horseshoe found at Gloucester will apply in every respect to the one above alluded to, except that the latter has been worn, and has seven holes, one in the front, in which it differs from all those found at the same time, and, with one exception, all that are figured in the work referred to.

"'Some years ago, when laying down sewers in the town of Gloucester, many relics of antiquity were disinterred in the excavations. In Northgate Street, at a depth of eight or ten feet below the present level, which is also the usual depth at which all other Roman remains (such as tesselated pavements and the like) are found, and some seven or eight inches below the pitched Roman road (*via strata*), were found a number of horseshoes and other articles of the Roman period. Two of the shoes I have had the opportunity of inspecting, and they correspond in every particular with those already described as belonging to this period. One of them is the most perfect specimen I ever saw, and is so little affected by its long sojourn underground that, but for the fact of its having been found with fibulæ, a lamp (*lucerna*), and other characteristic memorials of the Roman era, together with its peculiar form, one would be perfectly justified in asserting it had recently come

* We are of opinion that this so-called "hoof-picker" is the key of a door. It is a most ancient article.—Ed. *V. J.*

from the anvil of the blacksmith. It has never been worn—a circumstance to which its high preservation is partly due; the edges are perfectly clean and sharp, and every stage in its manufacture can be readily traced, as there is not the smallest speck of rust upon it. The iron of which it is composed is of the very purest description, and so white and ductile that it was at first conjectured to be silver. This, however, has been ascertained to be owing to the presence of a somewhat large proportion of nickel,* which has most largely contributed to the exemption from oxidation. I am informed that iron of this character, with much nickel in it, is found on the surface of the ground in Wilts. The outside of the shoe is black, as all ironwork is when just from the hammer. The specimen weighs only $4\frac{1}{4}$ ounces, and is $4\frac{1}{4}$ inches long and $3\frac{7}{8}$ inches wide. The calkins are rolled over in the usual way. The immense oval depressions for the nail-heads are stamped nearly through the substance of the shoe, and have been made with a blunt tool when the iron was very hot. There is nothing to indicate that the shoe had ever been placed on the bick or beak-horn of an anvil to give it its shape. The *round holes* pierced for the passage of the nails appear to have been punched through when the iron was in a cold state, as the round holes in the horseshoes are made at the present day in Syria, Turkey, and the East generally. These apertures are only six in number, and there is no indication of attempts of raising a toe-clip. Both surfaces of the shoe are plain, and the workmanship is not of a very high order, but appears to have been executed in a hurried manner.'—(From Fleming's 'Horseshoes and Horse-shoeing,' p. 253.)"

In another letter to the *Oxford Journal*, and which appeared in August, under the heading of "Oxford and its Neighbourhood in Celtic Times," he writes:—

"In a letter which appeared in your issue of June 17 last I gave an account of the discovery, in the drainage works in Titmouse Lane, of several horseshoes, at fifteen feet below the surface, which are certainly of an early period, and, on grounds I stated, probably Celtic. Several persons, by whom they have

* An analytical chemist who examined it informed me that it was the rarer metal titanium.

been seen, object to the high antiquity assigned to them, and, from their proximity to the old Castle when found, hold that they were within the boundaries of the old moat—thus accounting for the depth at which they were found, and assigning them to a period not earlier than the Norman, or perhaps that of the siege of the Castle by King Stephen. Such at first were my opinions on the subject; but on consideration, apart from reasons assigned in my former letter, I believe there are fair grounds for the opinion that they are of a period long anterior to the Norman, and probably preceding that of the Roman invasion.

"No objection grounded on the long period since Celtic times can hold good on this question; as the conditions which have preserved these shoes in the earth without a spot of rust, during at least several centuries, would, if continued, have preserved them in like manner during centuries to come.

"Now it appears certain that these were not shoes of horses which had died on the spot, either from being killed in battle or drowned in the moat, or even thrown into it when dead,—as in such cases the shoe would have remained attached to the hoof; or, even if it had been possible that the hoof had completely decayed, the nails would still have been in the shoe; but of the whole of the ten or twelve which were found, only four had a nail in them, and these one only. Doubtless horseshoes in early times were far too valuable to throw away, and some of those found have only been worn in a very slight degree. They were not found together, as if lost in the water by accident, but were here and there—some in the lane, others beneath Messrs. Ward's coal wharf, and two, at about the same level, some feet below the bed of the river where the iron tunnel is laid beneath it. It can hardly be imagined that the Castle moat extended to this distance.

"The question, then, is, 'How are we to account for horseshoes being deposited as these were found?' One was in clay, and had at the time, and still has, a bright polish on the whole of the surface; it was fully imbedded, and it is difficult to conceive how this could have come about at a distance of several feet below the surface of water, as a horseshoe thrown into it

would sink to the bottom and rest on the clay, but not become imbedded in it. The other shoes, although equally free from rust, were more or less incrusted in hard concrete of coarse drift sand. My own opinion is that the shoes were cast (or lost) off horses' feet in this place, which (I believe) was the bed of a watercourse where in dry seasons horses went to drink, although probably in wet seasons it was a deep and rapid river. With such conditions we may understand how a horse treading on clay might leave a loose shoe imbedded in it; and how the other cast shoes, left in the shallow water, were lost to sight at the time, being afterwards covered over by the drift from a rapid stream in flood times, the gravel or sand becoming concreted by the deposit of lime from the Thames water. To fairly consider the existence of such conditions, we have only to imagine what would be the state of the country, even now, if the whole of the locks, mill-dams, railway obstructions, bridges, etc., were altogether away. The floods might at times be sudden and tremendous, the rivers furious torrents; while in dry and hot seasons the watercourses, except in the deepest parts, would be empty and dry. Such, doubtless, were the conditions in England in Celtic times, and from the whole of the circumstances under which these shoes were found, with the facts to which I referred in my former letter, I am decidedly of the opinion that they are of that period.

"Much could be advanced on the small size of these shoes, showing that they could not have been fit for war-horses of Norman or later times; and also on facts in proof of the diminutive size of those of early British times. Those points, however, I will pass over, as my object in this letter is not so much to prove the great antiquity of the shoes in question, as to direct attention to the state in which the outskirts of Oxford have been in past times, and to suggest that a record should be kept of objects which have been found, and the nature or conditions of any remarkable character in the earth through which the drainage excavations have been made. Such a record would not only be interesting from an antiquarian point of view, but might be valuable as regards future works which may have to be carried out; and, doubtless, if on this ground only, the Local

Board would aid in getting up such a record, if provisions have not already been made for the purpose.

"In carrying the culvert under the Canal, within about a hundred yards from where some of the shoes were found, and about at the same level, the excavation was through a bed, several feet in thickness, of black bog earth or decomposed vegetable matter, which extended under the Hythe Bridge road, and onward under Worcester College garden. This deposit must have been the accumulation of ages; it shows the level at which water has at times been in these parts; and a record of its depth, thickness, and extent, as far as shown in the drainage works, would be interesting, might be useful, and, I presume, could be indicated on a map of the works with but little trouble or expense."

FIG. 5.

Such is the history of the shoes now offered for your inspection, and there can be no doubt whatever as to their high antiquity. I am extremely gratified at becoming possessed of them, as it gives me an opportunity of adding to the historical series of horseshoes I have already been permitted to present to the Museum of the Royal College of Veterinary Surgeons; and the value of the addition may be inferred from the fact that, of the large number of horseshoes generously sent for my examination from all parts of the Continent and this country, while preparing my history of horse-shoeing, I could not procure even one for

our Museum—those of this type being deemed far too valuable by their possessors to give away—though I contrived to get casts of some of them, and these are sufficiently marked for reference purposes.

I have now to direct your attention to an example of what have been termed "hipposandals," which, like many of the shoes, have been constantly found with Roman remains. They vary extremely in shape, and have given rise to much discussion among antiquaries and foreign veterinary surgeons as to what they may have been intended for. The one now exhibited (fig. 5) was found at Springhead, near Gravesend, at a place which appears to have been at first an ancient British, and afterwards a station on the great Watling Street of the wonderful colonists of Britain—the Romans. This hipposandal was found with many Roman relics; and it is not improbable it may have been used as a temporary protection to the foot of a horse, or for some other equine purpose to which Latin literature makes no reference. This, also, I have had unfeigned pleasure in presenting to our professional museum, as it is a rare example, and is in excellent preservation. There is only one other, to my knowledge, in this country, and that is in the British Museum; but it is a French specimen.

CYST IN THE LUNG AND FISTULOUS COMMUNICATION WITH THE STOMACH.

BY JOHN GERRARD, M.R.C.V.S., MARKET DEEPING.

THE morbid specimen I forwarded to you a few days ago, was the left lung and part of the trachea of a three-year-old bullock. He had been doing badly for some twelve months previous to my seeing him, but nothing to indicate a diseased condition or necessitate treatment. About that time I had dressed him for what is known here, and in the fen districts, as *Wens*,—tumours about the parotid and submaxillary regions, regarded by many as of a scrofulous nature. Although they bear some resemblances to the scrofulous tumour, I cannot think they are wholly so, as

they are only found in the fen districts, on peaty soil, and when any cattle suffering from them in an incipient state are removed to the higher grounds of the district, they gradually disappear without any surgical interference. The cattle from the grazing county of Leicestershire are very apt to be affected with them when brought into the fens for the winter, and generally recover from them when taken back in the summer, if the tumours are not too far advanced. Popular ideas attribute the cause of them to the water, containing, as it usually does, a large percentage of lime in the form of sulphate, as you will see from the enclosed analysis by Professor Voelcker of a sample of the fen water, which we imagined was the cause of periodic outbreaks of Splenic Apoplexy in a large herd of bullocks for four years in succession, and about the same time each season.

I digress, however, but shall like your opinion on this point at some future time. The bullock had been reared on the farm from which this sample of water was sent, and, as before stated, had been dressed for these tumours, which had nearly all disappeared. About a week previous to my being called in, he had fallen off in his appetite, and the owner had administered some aperient drinks and oil; but he got worse, entirely refused to eat, and was moved about with very great difficulty, breathing hard, and grunting badly.

Auscultation revealed the presence of a cavity in the lung, the sounds being those of a *whiff* and *gurgle* in one particular part: the other parts were characterised by dulness. The right lung had the normal sound slightly increased. From the fact that he had been dressed for wens some twelve months previous, and had done badly since, I considered it a case of Vomica, resulting from liquefaction and absorption of the substance of some of these tumours in the lung tissue, where they are sometimes found, with ulceration into some of the bronchi.

Treatment being out of the question, I ordered him to be destroyed, and the lungs preserved for my inspection. He was slaughtered next day, and as it was at a good distance from home, I did not see the carcase nor any of the viscera until a few days after; indeed, I did not see any part of him except the lungs, which were reserved for my inspection.

The right lung was perfectly healthy, also the mucous membrane of the trachea; but on cutting into the left lung, I was surprised to find the cyst, which I expected to see full of pus, filled with ingesta from the stomach. As I was much pressed for time, and thinking it rather an unusual condition of the lung, I took the liberty of forwarding it for your inspection, and, if you deem it of sufficient interest, for publication in the *Journal.*

I regret very much I was not present at the autopsy, and could only learn a few particulars from the butcher.

The left lung was adhering to the ribs, and there was a quantity of matter (pus) in the chest, close to the *skirt* or diaphragm. He did not perceive any hole through it, nor in any of the stomachs; but, on cutting up the *reed,* or fourth stomach, a number of nails and stones dropped out, which excited his curiosity, and he retained them.

I found one of the nails about three and a half inches long, and bent at the point at an obtuse angle, as if it had at some time been clenched on a piece of wood. The others were not quite so long, but were all worn quite bright. The stones were rounded like those found upon the sea-shore—evidently the result of friction upon each other from the action of the stomach.

The heart (he said) looked healthy, and was sold in the usual course of business, but the carcase fetched little in London. He was not quite sure if there was not some matter (pus) about the liver, but some parts of it were sold.

From the appearance of the lung I sent you, and the fact of these nails being found in the stomach, there can be little doubt but that the cyst had been caused by the irritation and inflammation of the nail passing through the walls of the stomach (probably the *omasum*), the substance of the diaphragm, and into the lung tissue, thus establishing a fistulous communication between them, and which allowed the passage of ingesta into the cyst. I did not take out the contents of the cyst, but from their finely comminuted appearance, I think they must have undergone the action of the manifolds.

On this I shall not speculate, but shall be glad to have your opinion and comments.

PROFESSOR VOELCKER'S REPORT ON THE WATER.

The water on evaporation left :—

	Per Imperial Gallon.
Dry residue (dried at 130° C.)	218·26 grains.

In this residue I found by direct determinations:—

Oxydisable organic matter	2·68 „
Phosphoric acid	·17 „
Oxide of iron and alumina	·95 „
Lime	39·82 „
Magnesia	15·49 „
Sulphuric acid	82·34 „
Nitric acid	10·52 „
Chlorine	27·52 „
Soluble silica	1·82 „

Alkalies and carbonic acid—not determined separately.

The water further contains in the gallon :—

Actual (saline) ammonia	·126 „
Organic (albuminoid) ammonia	·129 „

According to those analytical data, the composition of the water may be represented as follows :—

An imperial gallon contains :—

Oxydisable organic matter	2·68 „
Oxide of iron and alumina	·95 „
Phosphoric acid	·17 „
Sulphate of lime	96·71 „
Sulphate of magnesia	34·83 „
Nitrate of magnesia	13·93 „
Sulphate of soda	3·96 „
Chloride of sodium	45·35 „
Alkaline carbonates	17·86 „
Soluble silica	1·82 „
Total solid constituents per gallon	218·26 „
Actual (saline) ammonia	·126 „
Organic (albuminoid) ammonia	·129 „

The water was coloured slightly yellow, and on evaporation to a small bulk turned distinctly yellow and left a brownish-coloured residue, which on exposure to a strong heat in a platinum dish gave off disagreeable smelling fumes and became dark—showing that the water contains a considerable proportion of organic matter.

The amount of organic matter in this water is large and evidently of animal origin, as it contains both organic ammonia and nitrates, which are products of the decomposition of animal refuse matter.

The total amount of solid constituents in the water is abnormally large, as

ordinary wholesome drinking water seldom contains more than thirty grains of solid matter in the imperial gallon.

The water is largely impregnated with saline impurities, and contaminated likewise with much animal organic matter, and appears to be rendered foul by drainage from a yard or cesspool, or similar objectionable fluids, and, in my opinion, is decidedly unwholesome and quite unfit to be given to cattle.

I have no doubt such water will seriously affect the health of animals and would advise at once to stop the supply.

Unfortunately, there are no means of rendering the water pure and fit for drinking purposes. All that you can do is to look to your drains, and to make sure that no drainage products can by any chance find their way into the well which supplies the water; and if you cannot remedy in this way the defects of the water, there remains nothing but to abandon the use of the well.

[The cavity in the lung referred to by Mr. Gerrard was oval-shaped, about the size of a small cocoanut, and contained nearly twelve ounces of well masticated food.

The wall of the sac consisted of a dense fibrous membrane, continuous with the mucous membrane of some bronchial tubes which opened into it, and through which portions of the contents might have been expelled—in fact, some of these were filled with the ingesta for three or four inches.

The canal leading into this sac was about the calibre of a pencil, and lined by a continuation of the fibrous membrane already mentioned.

A small portion of the diaphragm was adherent to the lung around this orifice, but no trace of the stomach could be found.

In parts of the same lung, but at some distance from the cyst, there was a considerable number of small scrofulous deposits.]

A MONOSOMIAN MONSTROSITY.

BY W. SHIPLEY, M.R.C.V.S., YARMOUTH.

[Mr. Shipley having kindly favoured us with a photograph of a Monosomian Monstrosity, we requested to be furnished with information as to the history of the case: whether any difficulty was encountered in delivery, and if so, how it was overcome. This we did from the interest that always attaches to these cases, and particularly in an obstetrical point of view.]

THE double-headed, or rather semi-double-headed, calf I extracted from a cow some time ago, under the following circumstances:—

First of all, the cow was a medium-sized animal, and, as far as I can remember, about four or five years of age. She had shown signs of parturition the evening before I was called in, and on the following morning a man living in the neighbourhood, and practising as a cow-leech, or *veterinary surgeon*, was sent for, and tried his utmost for some hours to remove the calf. Being unsuccessful, I was sent for during the afternoon.

On examining the animal, I found the genital parts much swollen and dry, from the severe treatment she had been subjected to. With some difficulty the fore-legs of a calf, and a malformed head, or what turned out to be a head with two noses—*i.e.*, a semi-double head, were discovered. I also found the lower jaw of each smashed, and the incisors pulled out or hanging from the gums; this damage had been inflicted by the means employed to extract the calf. Efforts had also been made to amputate the head, but, as one might suppose, unsuccessfully, as its size would prevent the use of any kind of knife at the back of it; and I could not see what benefit would have resulted, even if it had been practicable. With some trouble and much labour, I returned the fore-feet as far as possible into the uterus, and passed a strong cord over the top of the head to the back of the ears; then, by the aid of some men pulling this cord, and by manipulating the two noses of the calf first to one side of the pelvis and then to the other, gradually drawing each forward, the head was ultimately extracted, and removed at its junction with the atlas. The remainder of the operation was easy work. I pushed the neck of the calf back, raised the fore-feet, and, with a little assistance, removed the body of a finely-developed calf. The calf was alive in the morning, and I believe if proper means had been resorted to at that time it could have been removed much easier, as its jaws were then entire, and by fixing a cord on each and passing one over the head, before swelling of the vagina had taken place, and when the canal was lubricated by the natural secretions, it would certainly have been extracted with much less force. Had I

been in possession of any instrument by means of which I could have fractured the bones of the skull, I could have more easily effected it sdelivery; but I had nothing of the kind, and I can only congratulate myself for not having done so by being able subsequently to have a good photograph taken of what I considered a singular *lusus naturæ*.

FIG. 6.

I may add that the calf had only one body and one spinal cord, and the cerebrum on each side was fairly developed, but the cerebellum was only semi-double; the creature had two nearly perfect tongues.

I have the bones of the heads roughly put together now in my possession. The cow from which I extracted the calf died; but I am thankful to say I had no *Mr. Prout* to deal with, or perhaps it might have been *Paradise Lost* with me.

A CASE OF CONGENITAL HAIRY TUMOUR ON THE SCLEROTICA AND CORNEA OF THE OX'S EYE.

BY W. ROBERTSON, F.R.C.V.S., KELSO.

CASES of tumours of this class are probably not of frequent occurrence, and certainly they have been very rarely recorded. Even in human surgery, where the slightest abnormal condition

is so quickly observed and frequently noted, the number of recorded cases of such growths is small. Professor Gräfe, of Berlin, in the fourth volume of the *Journal der Chirurgie und Augenheilkunde*, 1822, is probably the first to record the existence of such growths, in the description of a congenital tumour, which he calls "trechosis bulbi," situated on the margin of the cornea, from which hairs grew.

Mr. Wharton Jones, in his "Ophthalmic Medicine and Surgery," figures and describes an instance of this tumour, which he considers analogous to those of the skin called moles.

Mr. Edwards, in the *Edinburgh Veterinary Review*, 1859, after referring to these and some other recorded cases, gives a description and sketch of a very interesting case where such tumours were present in both eyes of the same patient, as also an account of their successful removal.

The case to which I would now draw attention exists in a short-horned bull-calf, six months old—in every other respect perfect, well-formed, and healthy. The abnormal condition was observed by the owner shortly after birth. The condition of the eye I have carefully examined, having been requested to visit the animal and advise regarding the course to be adopted with "a calf supposed to have a *double under-eyelid*." The most cursory examination of the eye reveals the presence of a considerable number of hairs, similar in appearance to those of the eyelashes, springing from the cornea and sclerotic, and projecting between the eyelids,—or rather, I should say, as they are kept constantly wet with tears, hanging over the margin of the lower one. More carefully looked at, it is evident that these hairs are implanted in what looks exceedingly like a *mole*—a portion of tissue of a dark-brown colour, which, judging from the examination made of a portion removed, is really and truly skin. This new or abnormal tissue is slightly elevated above the level of the sclerotica and cornea upon which it is placed; the latter, being less encroached upon, is nearly circular in outline, about three-eighths of an inch in diameter, and covered with conjunctiva.

The only disturbance which this tumour seems to cause is an abundant flow of tears.

ANEURISM OF ONE OF THE ANASTOMOSING ARTERIAL ARCHES SUPPLYING THE SMALL INTESTINES.

BY G. A. ROLLS, M.R.C.V.S., ARUNDEL.

I WAS requested on September 13, 1876, to attend an aged cart-horse, supposed to be suffering from an attack of Colic. Being from home when the messenger arrived, I did not see the animal for some hours. I then found him suffering from slight abdominal pain, shown by wandering aimlessly about, twisting the tail, occasional pawing or scraping with the fore-feet, and placing himself in position as if about to lie down, which, however, I did not see him do. The beats of the pulse were just perceptible, but far too feeble and irregular to count; the ears were cold, and the buccal membrane and conjunctiva pallid.

The prognosis given was, of course, "approaching death." Diagnosis, uncertain. The animal had been turned out to graze the previous night, and was found unwell on being taken up to do some work in the morning. One of the farm men said he had seen him in rather a peculiar position and down, the evening before. There was no Tympanitis, and the fæces, on a rectal examination, were found to be in good medium condition. There were no bruises or dirt marks on the body, which one would have expected to find on an animal that had been suffering very violent abdominal pain. I suggested that probably we should find, as the cause of death, congestion and mortification of a limited portion of bowel. The horse died during the night, and was opened early in the morning.

Post-mortem.—On laying open the abdomen, a large quantity of thin bloody fluid escaped. There was a large quantity of clotted blood lying loose among the intestines, and a large adherent blood-clot, about the size of a man's head, situated on the upper or attached side of the small intestine, and kept in position by the mesentery. The artery was enlarged and thickened for some eight inches before touching the blood-clot, and the bowel was thickened and congested for about fourteen inches in length. A distinct line of demarcation existed between the healthy and diseased portions, due to the greater thickness

of the latter. There was extensive Peritonitis, but not strongly marked; it was evidently very recent, and due, doubtless, to the effused blood.

I am sorry to say that I could not investigate the point of rupture, as the specimen was left for the owner's examination.

PUNCTURE OF THE INTESTINE IN FLATULENT COLIC.

BY ALEXANDER HARTHILL, V.S., LOUISVILLE, KENTUCKY (GRADUATE OF THE ONTARIO VETERINARY COLLEGE, TORONTO, CANADA).

THE frequent occurrence in this locality, during the summer months, of severe cases of Flatulent Colic, often terminating fatally, though receiving every attention and the most approved modern treatment, induced me, after some hesitation, to attempt to save other cases by using the trocar and canula. The success I have met with during the past four years has demonstrated that what has been considered a dangerous operation, and attended with doubtful, and even fatal, terminations, can be performed with great ease, and also with the most satisfactory results. It has fully established the fact that this simple and comparatively harmless operation on the horse is one of much importance to the profession, affording, as it does, relief in urgent cases, and when all other means have failed.

Although puncturing the rumen of the cow in Tympanitis has long been practised, and is followed by immediate relief, while it is considered harmless, it appears that puncturing the intestine of the horse in this common disease has been very seldom performed. Probably the knowledge of the anatomical difference of the organs, the higher organisation and more delicate nature of the structures perforated, and the fatality attending Peritonitis from abdominal wounds, have all occurred to the memory of practitioners, and caused them to deem it too dangerous, if not fatal, to attempt.

The kind of Colic most prevalent in this section of country is

flatulent, arising from the food given, and the great heat of the summer months. Indian corn—a staple product of the country—is used largely in its whole state. It is a rich food, slow of digestion, and generates a large amount of flatus. Horses and mules that are worked hard and exposed to the heat, or horses that have been standing idle a few days in the stable, and then driven, are most liable to suffer. Feeding on new corn in the fall (October and November) also produces very dangerous cases. Putting to work soon after a full supply of corn, or watering and feeding too freely when exhausted, all tend to cause great derangement of the digestive organs. Mules compose the larger portion of the work stock here; and an extreme case of Flatulent Colic, which at one time was one of the few diseases that caused the death of this hardy animal, is seldom, if ever, attended by fatal results in my practice now. In this class of cases, before I began to puncture, the *post-mortems* revealed the causes and the lesions producing death, as well as the location of the organs subject to the gaseous distention: or, in other words, the presence of quantities of undigested corn, rupture of the large intestines, the cæcum and colon, and occasionally the stomach and diaphragm,—the walls giving way from gaseous pressure, generated by the fermenting mass.

As far as I have been able to ascertain, from consulting a number of writers, this important subject has received but little attention in veterinary literature. Percivall suggests the operation, and states that the French are said to have performed it. He also mentions a case operated on by a Mr. Stuart, V.S., but with apparently doubtful result. Mayhew advises it as a last resort, or when death is threatened calls it a desperate remedy, and advises that the *left* side be punctured. He also states that it has been performed both in Great Britain and foreign countries, though it is by no means a certain success or a certain failure, but yet more speedy in its effects than the great majority of medicinal remedies. Dadd mentions it under the heading "Meteoriation," and quotes a successful puncture of the cæcum, translated from the "Rec. de Med. Vet." (French). It was an extreme case; three or four hours were passed in suffering, and medicines afforded no relief. It was punctured twice, large

quantities of gas were liberated, and relief followed at once; the next morning the animal was bright and lively, eating freely, and bowels acting regularly.

The *Edinburgh Veterinary Review* for 1859 states, in its extracts from the Continent, that M. J. Aubrey, V.S., had performed it in four cases—three of them proved successful, the fourth obtained temporary relief, but died on the sixth day. The colon was found obstructed by a hard fæcal mass, and nothing passed whatever.

Professor Williams, in his valuable addition to our literature, mentions the subject briefly, and says the French practise it, and advise that it be done early. It has not, however, found favour in Great Britain. He had performed it twice himself, on cases that were greatly exhausted. Some relief followed, and life was prolonged, *but both died.*

Considering the eminent authorities quoted, their difference in opinion, and the somewhat doubtful results to be looked for when adopting the remedy in question, I confess it was with some misgivings on my part that I had much hope of succeeding, where men so distinguished in our profession had failed to discover its great value; and only as a last resource was I tempted to make the experiment, when I believed to a certainty my patient would die on my hands in any event, and hence I took the risk, with, to myself and the owner, the most gratifying success. That case I will here describe, as, being my first one, it may prove all the more interesting. The patient was a brown horse-mule, one of a team from the country, which had been given the usual feed of corn and hay the night before, the same in the morning, and then started with a load for the city. He was taken sick about eight a.m. on the outskirts of the city, and after great suffering for five hours, and receiving as many drenches, he was brought to me apparently nearer dead than alive. The abdomen, to use the negro teamster's expression, "was as big as a hogshead," the respirations were short and difficult, extremities and body surfaces cold. Staggering from weakness, membranes dark-coloured, pulse very weak, mouth clammy, pasty and offensive, eyes sunken—the facial expression and whole appearance showing he had undergone great suffering, and was in a critical condition.

In fact, with the exception of the great abdominal distension, he presented the appearance of a case of Enteritis nearing a fatal termination. I felt there was no time to lose, as suffocation or rupture of the intestine might happen at any moment, and decided to try puncturing. We led him into the stocks, put the side bar in, and an assistant stood at the head. I cut through the skin at the upper part of the *right* flank, with the setoning scissors, as the skin in mules is thick and tough. A sharp push sent the trocar and canula through the muscular wall into the intestine. He barely moved while this was being done. The withdrawal of the trocar was followed by a rush of most offensive smelling gas, which continued while the abdomen gradually lessened to near the normal size. The mule stood quiet, and when the gas ceased escaping he gave a deep sigh, expressive of relief. He was turned into a loose-box, and stood very quiet and stupid-looking for some hours, being quite cold all over Gradually, however, warmth returned, and late that night he appeared brighter, and drank a little gruel. I had given him a five-drachm bolus early, but twenty-four hours elapsed before any fæces passed, and they were dark-coloured, slimy, and offensive, and contained much undigested corn. The mule's appetite and strength increased daily, and in five or six days he went home. Has been sound since, and works hard. This was an extreme case, but however satisfactory, it was not enough. Pleased, however, at the result in this case, I tried it again and again; and when I say that the same good results have followed ten or twelve times every season during the past four years, I think this conclusively proves the permanent success and great value of the operation on the horse as beyond all question.

Regarding other cases which have passed through my hands, I may say that I have punctured patients from three to twenty years of age, some in a recumbent position, though generally standing in the stocks. If any further proof is necessary as to the efficiency and safety with which this operation can be performed, I may say that, in prolonged cases, I have punctured the same animal as many as four to six times within twelve hours, and they made good recoveries. In all my cases, with only two exceptions, the wounds healed by the first intention. In the cases

punctured so often, the only noticeable feature was that the parts were a little swollen, hot, and tender to the touch for a few days. The large majority of patients needed but one or two punctures, and so little of the wounds was to be seen a few days after, that they were generally not observed. The exceptions to the rapid healing process noted above were, first, a mule, in which an abscess formed between the layers of the muscles. That I laid open, and it healed rapidly. The second was a delicate mare, in which case a deep-seated abscess formed, and opened externally at the only puncture made. It assumed a fistulous tendency, the pus burrowed downwards some distance, and it became necessary to make an incision eight to ten inches long and quite deep. However, it healed, and she made a complete recovery.

Nearly all of this class of cases I had brought to my infirmary, and turned into my colic-stall, twenty-four feet by sixteen, well bedded with sawdust. This ensured privacy, and the advantage of having remedies and assistance at hand. In slight or ordinary cases, I gave the usual remedies; but when a case came that had been suffering for one or more hours, the abdomen greatly distended, and urgent symptoms present, I decided on puncturing, and had the animal led into the stocks. I placed the side and breast bars in position, applied the twitch, and selected the most prominent point of the distension at the upper part of the *right* flank. I made an incision from an eighth to a quarter of an inch long with the setoning scissors, or a small-bladed penknife. A sharp push sent the trocar and canula through the muscular wall into the intestine, when gas followed the withdrawal of the trocar. In cases where the escape ceased suddenly, I passed the trocar in again, to clear away ingesta that had been drawn into the canula by the rush of gas which occasionally happens. The pain felt on cutting the skin always appeared to be more noticed by the animal than the rest of the operation. Complete relief followed in most cases: in fact, a state of great suffering and danger was changed to one of ease and safety. Now and then a case, after being relieved of a large quantity of gas, became perfectly quiet for two or three hours; but owing to the fermentation continuing, the distension returned with urgent

symptoms, a second puncture was made, more gas escaped, and permanent relief followed.

After puncturing, I advise some days' rest and light feeding; although, extraordinary as it may appear, I know of two instances when the animals, contrary to my wishes, were put to work the next day, and no bad results followed.

The instrument I use is from three and a half to four and a half inches long, and an eighth of an inch in diameter, spear and trifacial pointed, and the cutting surfaces made longer than usual, as I find they cut much easier. I am particular to have them in good order to ensure a quick, clean puncture. As before stated, I have on several occasions performed it while the patient was in a recumbent position, with an assistant holding the head down firmly; and it answered very well, as no resistance was made. With others, however, it was not practicable, as they struggled and attempted to rise, and the object is thus very apt to be frustrated. Judging from my experience, I feel confident that almost any extreme case can be saved, provided rupture has not taken place. That no bad effects follow to the peritoneum or bowel, I feel satisfied; for the reason that the incision made is small, and done at a time when the intestine is greatly inflated, sometimes to its utmost limit; so that when it collapses or resumes its normal size, the edges of the wound coming into close contact with each other, doubtless unite at once. Any irritation caused is slight, and the small wound made in the coats of the intestine heals quickly.

Although I have punctured patients on both flanks, I am decidedly in favour of selecting the *right side*, having found it the best for reaching the intestine containing the bulk of the gas; so much so, indeed, that I now seldom attempt it on the left side.

From what I have related of my experience in connection with this subject, practitioners who may decide to follow my example will have less fear of doing so than they possibly have had heretofore, and have only to be guided by the character of the case in hand, and the duration and severity of the attack, to render such an operation a complete success.

VETERINARY OBSTETRICY.

BY W. A. COX, M.R.C.V.S., ARDWICK, MANCHESTER.

(*Continued from p.* 106.)

PECULIARITIES IN PRESENTATION, DUE TO SOME MORBID ALTERATIONS IN THE DAM.

Rupture of the walls of the Uterus, and presence of the Fœtus in the abdomen amongst the intestines.—These cases are rare, and I have only two on record. *Post-mortem* examinations proved that the inferior wall of the uterus had given way,—been ruptured,—some length of time previous to the exhibition of parturient signs; pains there were none, truly speaking; the mammary glands were filled, the vulva enlarged, and the lining membrane injected, and the animals were "off at hips" and uneasy. In both cases, examination showed that the fœtus lay abnormally low; when the hand had passed through the cervix uteri, there was a precipitate fall of more than the length of the hand before the fœtus could be touched, and the head and extremities could be scarcely grasped when the arm was introduced to the full extent. The abdominal parietes could be plainly felt. In both cases the fœtus was straight, the only difficulty being in getting the head and feet through the cervix without catching at the folds, as it was drawn through the ruptured orifice. In one instance this was avoided; in the other, although great care was taken, the uterus was torn afresh and the animal succumbed from hæmorrhage. Whether this was caused by drawing the fœtus through the opening, or by the contractions of the uterus, I could not decide. In the other case, death did not take place until the fourth day after delivery, and was due to Peritonitis, caused by the free presence of the fœtal fluids in the abdominal cavity. In both cases, the placenta came with the calf. I have never seen these cases in any animals except cattle.

Præ-placental presentation.—This is also rare, and if seen at the full period of gestation, may be considered as an unfavourable appearance; it is most frequent in cases of abortion, and at that period is seldom attended with unfavourable results. These cases

occur when the full period of pregnancy has passed, and the "water-bladder" has been presented and ruptured; and the *entire* placental mass follows it, and is prior to the fœtus. In some cases a considerable portion of the membranes envelop the fore parts of the fœtus, and occasionally to such an extent as to retard delivery. These may be shredded off, and removed without risk; but in such cases the posterior part will be found attached.

The fatality attendant upon these cases is owing to neglect of examination and proper aid, and this negligence is due to the absence of "pains."

After the removal of the fœtus, it is found that hæmorrhage has taken place from the open vessels, and the quantity indicates that it commenced immediately after the separation of the placenta. I have seen these cases only in cattle.

This must not be confounded with the *active* hæmorrhage, or "flooding," that follows the act of parturition, and an interesting case of which I have on record. It was a cow belonging to Mr. Booth, of Buckholme. I had delivered her—a simple presentation—without difficulty; the placenta had followed, and I had left the shippon to wash and dress, when the attendant left in charge hurriedly informed us that she was parting with great quantities of blood. This proved to be the case; it was discharged in volume equal to an ordinary pump spout. It was an urgent case. I soaked four or five double towels and a sheet in cold water, and passed them through the vagina into the uterus, and then blocked that passage up with similar materials. From fifty to sixty cans of cold water were thrown on to her, and a double cloth over her loins was kept constantly wet. Two doses of opii and acetate of lead were given, with alternate doses of opening medicine. On the third day the cloths were eased by twisting them, and on the day following they were expelled. The animal recovered, and was in usual milk in ten or twelve days.

"Flooding" in the mare is occasionally seen. Mr. Frost, of Lintwood, sent for me in haste. His mare had foaled, and she was losing great quantities of blood. I found her so weak that she staggered. In several places where she had stood for a

short time were clots of blood the size of a man's head, besides much fluid blood that had been evacuated, and had sunk into the ground. I douched her with a great volume of cold water, and adopted the treatment before mentioned. I did not introduce cloths into the vagina. The mare recovered. This is a digression, but these are cases of interest.

Schirrous Os Uteri is seen in cattle and sheep, oftenest in the former; never in the mare. It is owing to a peculiar diathesis, or injury at impregnation, or is the result of aggravated or protracted Gonorrhœa.

It is conversion of the membranous elastic ring into firm tense cartilage, incapable of the least extension. Sometimes the opening is so constricted as to admit only of one finger; but it is rare that the hand can be passed. If on examination there is the slightest dilatation, the probability is that by repeated efforts and allowance of time, the fœtus may be extracted. If the diameter does not increase, there should be no delay in operating. The method consists in the division of the hard ring, superiorly and laterally, by two incisions. Before operating it is advisable to warn the owner of the great risk, as the "pains" of the dam, or the passage of the fœtus, will sometimes extend the incisions far into the body of the uterus and tear across or open large vessels, and death follows.

The "thimble" knife, or a probe-pointed bistoury, may be used in operating.

If the fœtus is dead and decomposed and the pains have subsided, and no portion is advanced through the os, it has occasionally been left to nature, and the animal has been fed off; and when slaughtered, the fœtus has been seen dried up and smaller, enveloped in its membranes, the chorion having the character of leather. Or if the membranes have been ruptured, the softer tissues will have been discharged, and the bones only have been found.

After the operation the fœtus may be placed *in situ*, and the expulsion left to the dam. There will be less risk of too great extension of the incisions. If no progress is made, assistance may be given; but the traction should be moderate, and simultaneous with the pains.

Small Calibre of the Os uteri is occasionally found. Manipulation will considerably increase its diameter, but the hand and arm should be anointed with lard. The head and feet should be corded separately, and carefully brought into the vagina. If the fœtus is large, the four extremities should be removed. Sometimes the fœtus "blocks" in the os, and this is drawn back until it can be seen. In such instance, it must be worked back with the fingers, inserting lard between it and the fœtus, and giving the latter a twist as it is drawn.

(*To be continued.*)

FRACTURE OF THE ACETABULUM.

BY J. W. HILL, M.R.C.V.S., WOLVERHAMPTON.

On the 10th of this month (January) I examined, on behalf of the Patent Shaft and Axletree Company, an aged brown mare as to lameness. Until two days previous she had been sound, when, on the day in question, she became, whilst at work, suddenly lame in the near hind limb. I diagnosed it as a fracture of one of the trochanters at the head of the femur, or the acetabulum; and, as she was a very old animal, and the case likely to be tedious as well as unsatisfactory, it was arranged she should be destroyed, which was done the same afternoon.

A *post-mortem* examination revealed a fracture, with separation at the lower edge of the rim of the acetabulum, the broken portion being an inch long and split off obliquely.

The gait of the animal was peculiarly significant of some displacement in the hip region: the limb turned inwards, similar to knocked knees, and the power of rotation seemed utterly lost. The muscles on that quarter had a flat, sunken appearance, and, on manipulation, could be passed easily backwards and forwards over the ridge on the outside of the femur, almost giving the idea that the tuberosity itself was loose.

A FEW REMARKS RELATIVE TO "BURSAUTTIE."

BY STEPHEN KNOTT, M.R.C.V.S., ROYAL ARTILLERY.

HAVING read "Max's" papers on "Bursauttie" in the *Veterinary Journal* for November, and as that gentleman asked for the experience of other members of the profession on the subject, I beg to submit a brief statement of my views, founded on the practice which I had during my service in India and Burmah.

The question is asked, "What is Bursauttie?" Those who have served in India know that it is a sore which makes its appearance in the rainy season, and shows itself on different parts of the body. I am of opinion that Bursauttie is a spreading sore, of a climatic and phagedenic character. It assumes the appearance of a dark-coloured, granulating, spreading ulcer, varying in size—the largest, as a rule, showing itself in front of the fetlock joints and on the outside of the hock, near the seat of Thoroughpin. In front of the fetlock joint it has a raw, convex, granulating, carbuncular appearance.

The parts attacked are generally the extremity of the prepuce, the side of the cheeks, sometimes both above and below the zygomatic ridge, under the lower eyelid, and, as I have already stated, in front of the fetlock joints, etc.

I have frequently noticed that any little abrasion during a monsoon has a tendency to run into Bursauttie, especially where caused by heel rope and foot shackle. The question is, however, "How do they become true Bursauttie sores?" The damp and wet of a rainy season is undoubtedly an exciting cause—added to which, flies carry the virus from those suffering with the disease to healthy horses who may have slight abrasions on them. On many occasions I have seen Bursauttie sores studded with flies, as thick as they could be, and which, when disturbed, would fly away and deposit themselves on other horses, and so, without doubt, assisted materially in the spread of the disease.

I thoroughly agree with "Max" in the supposition that flies do carry poison to wounds and abrasions, by depositing fæcal and decomposing matters from latrines and other sources. When this happens, and particularly when the wounds are influenced by a moist temperature, I am of opinion that Bursauttie is the result.

During stable hour in the Troop Lines, while horses have been feeding with nosebags on, flies would deposit themselves in great numbers round the lower eyelids and sides of cheeks—after which, on the removal of the nosebag, they would go around the lips and angles of the mouth, possibly brought there by the smell and sweet taste of the boiled "cooltie." This probably accounts for the sores on those parts. Then, again, as to the sores on the penis: horses, if kept ever so clean about that part, are always liable to a secretion under the prepuce, which would naturally spread over the glans penis and about the sheath. Referring to the pasterns and fetlock joints, the dirt and accumulation of dried urine and slight particles of dung would be very enticing to flies; and if there were any wounds about those parts, they would naturally go and alight upon them. Moreover, should the flies have previously been upon fæcal and decomposing matter, it is but right to infer they would poison a wound, and cause an unhealthy sore, by conveying morbid matter to it.

As to Treatment.—The first thing to be done is to protect the parts affected from flies, as there is extreme itching and irritability of the sores. At times the cloth which is generally tied round them may be dispensed with. As regards local applications, carbolic acid lotion is very serviceable, and stops the itching; chloride of zinc, gr. vj. to the ounce of water, is another good remedy, and brings about a healthy state of the diseased surface. At other times, when granulating too much, the application of nitrate of silver or sulphate of copper, or a lotion made of sulphate of copper or zinc, is very useful.

Another very good agent is a solution of aloes, with a quantity of alum added, sufficient to make it a strong astringent lotion; the aloes will keep away flies and act as a desiccant. I have known Ung. Iodidi, made with ʒj to ʒviij of lard, do a great deal of good when applied with pressure, especially over the sores on the fetlock joints. Again, there is the application of the actual cautery; after which poultice, and when the wounds are looking healthy, the common digestive ointment, with alum added to it, will often heal them up.

I have met with chronic cases which continued all the year

round, and which, when the rainy season had passed, improved but very little. Milder cases, however, get well when the rains cease, but usually re-appear during the next monsoon.

Constitutional Treatment.—Occasional doses of physic, combined with a little calomel, varied at times with other alteratives, such as iodide of potash and tonics, and strict attention to diet.

THE ŒSTRAL OR MENSTRUAL DISCHARGE IN THE LOWER ANIMALS.

BY A. E. MACGILLIVRAY, V.S., BANFF., N.B.

IT appears that my communication in the *Veterinary Journal* for December, 1876, as to a case of Impervious Vagina which occurred in my practice, has attracted some little notice among my professional brethren, and has been the cause of the successful treatment of an analogous case in the practice of Mr. R. West, of Redhill (see *Journal* for last month).

Mr. Gerrard, of Market Deeping, however, in an article also in the February *Journal*, seems to think I ought to have styled my case "*Amenorrhœa*"; and then goes on to say that, as there is no œstral or menstrual discharge in bovines, there can be no Amenorrhœa, and that, consequently, I had no case at all; or, to use his own words, my own details "make the condition described an impossibility."

With all due deference to Mr. Gerrard's great and well-known theoretical abilities, I must be allowed to say that actual experience, and what one has seen, must be accepted as true, and in preference to a few cursory remarks about "injured vagina and consequent adhesions," "dropsy of the uterus of a sero- or muco-purulent description," "hæmatoma," "pelvic cellulitis," etc. I beg most emphatically to state that my case of "impervious vagina" had nothing in common with either of these, and that, therefore, the conclusions drawn by Mr. Gerrard are quite foreign to the point in question. My case was simply one of congenital malformation—an entirely impervious vagina; and the sero-sanguineous fluid mentioned by me was the *result* of the retention, in the isolated uterus, of the usual œstral products.

This brings me to the grand point of contention—namely, Is there in equines, bovines, ovines, etc., anything at all analogous to the menstrual discharge in woman?

After what has been recently written on this subject by such authorities as Saint-Cyr and Fleming, who both maintain the existence of a sanguinolent œstral discharge in the lower animals (resembling the catamenia of woman), I should have considered it impossible for any one with opportunity for practical observation to assert, as Mr. Gerrard has done, that "*all experience confirms the contrary.*"

No writer on the subject, in so far as I am aware, has ever sought to assume that the periodic œstral discharge in brutes is as invariable in appearance, as copious, or as well defined as in woman. Saint-Cyr says "the phenomenon is normal, but not constant": one reason for its being not *constantly observed* is, as mentioned in Fleming's "Obstetrics," that it is often retained in the vaginal canal and passed (unobserved) during micturition. This is most common in mares, in which, through its being retained *in transitu*, it becomes darker in colour and more glutinous, some of it adhering around the external margin of the labiæ vulvæ, where it may often be seen and examined. Having occasion, a few days ago, to examine the external generative organs in a mare-pony, I found, all round the outer part of the vulva, well-marked signs of this dark-coloured bloody excreta —the pony having been *in heat* a day or two before.

Considering the exhaustive treatment which this matter has recently received in Fleming's "Obstetrics," both as to the physiological and anatomical reasons existing for the apparent differences between the catamenial discharge in human and brute, and as to the authorities (home and foreign) who have chronicled observations on the same, it would be very superfluous in me to enter into minute details thereupon. I will therefore confine my further remarks to two cases, from among many bearing on this question, which have happened in my own practice, and which I would hope go to prove the existence of true sanguinolent catamenia in the lower animals.

Before giving the history of these cases, it may be as well here to mention that sanguineous elements are sometimes

entirely absent or indiscernible even in women, in whom the amount and continuance of the discharge are also extremely variable. The quantity of the catamenia in woman may vary from three to eight ounces, and the discharge may continue from twenty-four hours to five days. These variations and omissions occurring in subjects (human), where the phenomenon is supposed to be constant, how can we expect an invariable appearance in subjects (brute), where it is supposed to be inconstant?

In the first case which I intend quoting, the catamenia (I think I may be allowed the expression in this instance) exceeded the extreme quantity in the human subject; in fact, it seriously alarmed the owner! On arriving at home one afternoon in the month of July, 1868, I found that there had been three separate messages requesting my immediate attendance at a place some two miles distant, where a cow was said to have been dangerously injured about her "water passage." On my arrival I found the cow, a strong, healthy young animal, all smeared about the hind-quarters with what seemed to be blood, a little of which was still escaping from the vulva; the latter being much tumified. The cow, along with other three, was grazing in a small plantation adjoining the cottage; but she appeared very restless, and, to my astonishment, all at once made a spring and got on to another cow's back with her fore-quarters. To make a long story short, she was *in heat*, and the bloody excreta with which she was smeared was neither more nor less than a copious sanguinolent œstral discharge—*catamenia*. She was served with the bull next morning, became pregnant, and in due course calved. The simple-minded owner was so astonished at the quantity of blood escaping from the vagina, that he thought the "herd-laddie" had been forcing a stick into her water passage!

On the 16th December, 1873, I was requested to attend a two-year-old brown cart-filly, belonging to a farmer in this locality. On calling next day I found the filly in a very bad condition: tucked-up belly, dry staring coat, and a bad-smelling, thin, reddish-brown discharge from her vagina. This discharge was occasionally copious, and seemed to be extremely acrid

and irritating, as the hips and thighs were denuded of hair and excoriated from its action. The filly had been gradually losing condition for a considerable time, when suddenly an abundant discharge took place from her vagina. This discharge continuing, I was consulted.

The *disease* was Uterine Leucorrhœa; and the *cause* was the retention *in utero* of the œstral products. I had previously asserted this to be a cause of Leucorrhœa in the *Veterinarian* for November 1872 (vol. xlv., p. 808). As a matter of course, this filly had never been put to the horse (*i.e.*, *covered*), so that Mr. Gerrard cannot bring forward his *Hæmatoma*—which, by the way, he also calls *Pelvic Hæmatocele* (see the *Veterinarian* for July 1874)—and which he says is a disease he has always found occurring about a fortnight after copulation or parturition. In this filly (as well as in the case of Impervious Vagina) the fœtid sero-sanguineous fluid was altogether confined to the uterus, and so need not in any way be confounded with Mr. Gerrard's cases of Hæmatoma (or Hæmatocele ?), which were all outside the uterus, and apparently the *result of injury*—being in fact abcesses containing sanious pus.

As regards the filly, I consider that, owing to some congenital contraction about the os uteri or ostium vagina—most likely the former—the œstral products had remained *in utero*, had become fœtid and acrid, and hence excited by irritation sufficient inflammation to bring on a genuine attack of Uterine Leucorrhœa; in which the imprisoned diseased fluid soon accumulates to an enormous extent, so as to burst through any obstacle short of true atresia of the vagina. I maintain that this is the only way to account for the serious attack of Leucorrhœa which I had to combat in this filly; so that I consider this case another good proof of there being catamenia in the lower animals.

As recommended in my article in the *Veterinarian*, I treated the Leucorrhœa in the above case with Cupri Sulphas; it was applied to the filly both locally and constitutionally, and the result was a perfect, though tardy, recovery.

It is just worthy of note that the veterinary student (Sievwright) who was along with me at the time the case of Impervious Vagina occurred, made it the subject of a communication

which he read before the Medical Society at the New Veterinary College of Edinburgh; and the medical gentleman who was in the chair, a well-known lecturer on physiology and histology, said it ought for ever to settle the dispute as to the sanguinolent œstral discharge in the lower animals. At the same time he favoured the students with some very interesting details as to the disease in the young human female.

I cannot leave the subject without noticing the great exception which Mr. Gerrard has been pleased to take at my styling the imprisoned uterine fluid *sero-sanguineous*. He tells us that the menstrual fluid in woman is not so—of which I am perfectly aware. He tells us that the fluid in Uterine Dropsy is never sero-sanguineous—a fact which I cannot doubt. He must, however, bear in mind that my case was neither Uterine Dropsy nor pure and healthy menstruation; and, if he choose to consult the writings of our great medico-obstetrical authorities, such as Brande or Burns, on the subject, he will find that the imprisoned fluid, in such cases as mine, consists mainly of "*a solution of the colouring matter of the blood in a diluted serum.*"

In the case recorded by Mr. R. West in last month's *Journal*, *a large quantity of reddish-brown fluid* of a most offensive smell was ejected. This was precisely what occurred in my case, and I have no doubt Mr. West's case and mine were exactly alike, with the exception that, as the heifer in my instance was in prime condition, I caused the owner to slaughter her.

The discharge of a more or less quantity of a blood-like fluid in heifers and cows during the cessation of "heat," is so common and so well-known to all herdsmen, as scarcely to require any notice here; but, as Mr. Gerrard seems to be completely unaware of such a phenomenon, I would advise him to apply to any well experienced herdsman in some of his country rounds, and I have *no doubt* he will soon get *his doubts* on the matter solved.

Editorial.

CATTLE PLAGUE.

CERTAIN parts of the Continent have been, during January and February, invaded by Cattle Plague; and the scourge has found its way, in the usual manner, to this country. It appears to have first shown itself in Upper Silesia, on the frontier of Poland, and in the direction of the region where the Russian army is mobilized for the invasion of Turkey. The malady manifested itself soon afterwards in Hamburg (Jan. 13th), and was supposed to have been carried there by cattle from Berlin, at which city and in other parts of Germany it was soon reported.

The Veterinary Department of the Privy Council had timely notice of the existence of the disease in that country, and warned the port inspectors to pay particular attention to cargoes of German cattle. But it would seem that on the day before the outbreak was discovered at Hamburg, a cargo of infected cattle left there (Jan. 12th) for England; and when they reached Deptford (Jan. 15th) the disease was evident to the inspector. Certain precautions were adopted, but it was not until the following day that the animals were destroyed. It was imagined that there was no further danger; but in the course of a few days dairy cows in the vicinity were attacked, and subsequently a series of outbreaks has been reported, one of them being at Hull. An order in Council was published on Jan. 19th, placing France, Belgium, Denmark, and Holland in the same category as Germany; and when it was discovered that the contagion had eluded the measures adopted for its destruction at Deptford, another order was issued on Feb. 1st, prohibiting the departure of cattle, sheep, and goats from London; and on the following day another regulating the holding of markets and sale of these animals within the Metropolis; at the same time notice was given to the local authorities throughout the country of the existence of the malady, and warning them to be on the look-out. Cattle Plague having shown itself beyond the limits of the Metropolis towards the middle of February, an Order in Council, to take effect on and after the 13th of that month, was issued. This order was supplemental to the Animals' Order of 1875 and the Metropolitan Cattle Plague Order of 1877, and gave the local authorities power to prohibit the holding of markets or sales of cattle within their districts, with certain exceptions, so as to prevent the introduction or spread of the disease.

It would appear that doubts exist as to the manner in which the infection was conveyed into and beyond the Metropolis; though there need be no hesitation in asserting that wherever it has appeared it must have been carried in some way from an infectious source. If the ordinary and well-known measures are carefully and promptly resorted to, the pestilence will be stamped out, after much expense, anxiety, and inconvenience.

What concerns us most now, is the fact that the malady has been able to obtain a footing in England through the importation of diseased

cattle from Germany—a scheduled (*i.e.* suspected) country—and notwithstanding the fact that the officials had timely warning and were on the look-out for it when it was discovered at Deptford.

For years we have unavailingly pointed out the danger of relying on port inspection for the exclusion of contagious diseases in animals. No greater fallacy can exist than the belief that this inspection will preserve this country from the inroads of those terrible disorders which are attended by such grave consequences, and inflict such damage on the nation. It is absolutely impossible for any inspector to detect these diseases when latent, and there is no reason whatever why cargoes of infected cattle should not be passed by him as healthy. It is only when the disease is developed, and often only when it is in an advanced stage, that it will attract the attention of an official who may be on the alert. When we remember that the voyage from Hamburg to England does not occupy more than three days, and that the latent or incubatory period of Cattle Plague is rarely indeed less than four, and may be as many as twenty days, we need not wonder if outbreaks should occur in the Metropolis. Nay, an infected ox might be carried from Hamburg, landed at London, and conveyed to Aberdeen before the manifestations of the disease would be noticed. We cannot, therefore, be absolutely certain that the cargo of German cattle disembarked at Deptford on the 15th January was the cause of the Metropolitan and other outbreaks. The infection may have been introduced before that date, as it was evident that the sources of contamination existed at Hamburgh before the disease was discovered there. It was certainly most injudicious to keep the sick animals so long alive at Deptford, when their condition was ascertained. If they were discovered to be diseased on shipboard, they should never have been allowed to land.

There are some people whom no amount of experience will teach or plain facts convince. The uselessness of port inspection—nay, its dangers—has for years been demonstrated in the most obvious manner. Even in our traffic with Ireland its fallaciousness has been made clear as day. But though Ireland, as an exporting country, believes in its efficacy, yet when it comes to importation she at once condemns it.

Further, we learn that the vessel—a magazine of infection—was allowed to proceed to one of the London wharves without any precautions whatever being taken to cleanse and disinfect her or her crew, every one of whom would prove a bearer of the contagium, as well as the people or animals who came in contact with them, or who visited the ship. It can scarcely be doubted that at least some of the outbreaks may be traced to this strange neglect of the simplest sanitary teachings. When we consider the amazing potency and diffusibility, as well as the extraordinary vitality, of the Cattle Plague virus (many instances of which we have given in "Veterinary Sanitary Science and Police"), surely it is not too much to ask that ordinary circumspection, if nothing more, be exercised in dealing with the pest. It is true that we are utterly destitute of any organisation to cope successfully with contagious diseases in animals; and if we escape a severe visitation of this disorder,

good luck will have more to do with it than wise management or judicious forethought.

Under the circumstances, we can only appeal to the members of the veterinary profession to aid to the very utmost of their power in protecting the immense interests involved. Our colleagues, more than any other profession or body of men, can do the public a great service at this juncture; and motives of patriotism, as well as the demands of duty, should urge them to assist in every way in preventing or suppressing such a scourge. We add our appeal to that of the Lord President of the Privy Council (which will be found in the Proceedings of the Royal College of Veterinary Surgeons), and feel assured that both will be loyally responded to.

Has the mobilisation of the Russian army in Bessarabia anything to do with the origin of this outbreak? It may be surmised that it has; and in the event of war occurring in the East we may expect a general diffusion of the pestilence, which ever attends the movements of the Muscovite hordes towards the West. Such has been the teaching of history since the commencement of the fourth century, when the first Christian poet—in his poem "De Mortibus Boum"—lamenting the destruction of cattle which followed the irruption of the Huns into Western Europe, indicates the course of the scourge:—

> "Hæc jam dira lues serpere dicitur
> Pridem Pannonios, Illyricos quoque,
> Et Belgas graviter stravit, et impio
> Cursu nos quoque nunc petit."

The mortality among cattle during the Russo-Turkish war of 1828 was something terrible; it will be still more severe should hostilities be permitted to take place again in that region, as the facilities for the extension of the disease are so greatly multiplied. Have those people in this country who are striving to bring about a war, taken the destruction which will be inflicted upon Europe by the Cattle Plague into their consideration? Of course we presume the destruction of human life, and the years of misery which a war will otherwise produce, have already entered into their calculations.

RABIES CANINA.

THE interest excited by the prevalence of this disease continues; and the public press has discussed it somewhat extensively, if not always very satisfactorily. It is proposed that a scientific investigation of the malady be instituted by the Government, but we entirely fail to discover what benefit it would confer. The Royal Commission on Cattle Plague threw no new light on the malady, nor on its prevention or suppression, and it was a most expensive affair. It would be exactly the same with regard to Rabies. We know as much of the malady as we do of some of the human scourges, and we have often pointed out that this knowledge is not utilised. Perhaps

something might be done towards making our acquaintance with its pathological anatomy more exact; but this would in no way affect legislative measures, nor render its prevention better understood. Few animal diseases have been more attentively studied by veterinary surgeons; and if some points regarding it are still in doubt, as much may be said of some very destructive and prevalent human disorders. If the public would only avail itself of what veterinary science has achieved in this direction, there would be little need for apprehension. But if it is satisfied to lend an ear to the promulgators of such fictions as the *mental origin* of the disease, or the worse than stupid "dish of water test" for its diagnosis, then we have no hope for any immunity from its ravages or cessation of its extension. It is indeed astonishing to find at this time of day so much nonsense written with regard to this contagious disorder. A short experience of it among animals would prove that it is no more a mental disease—so far as its etiology is concerned—than are Small-pox and Measles in man; and the imagination will no more produce it, or Tetanus, than it will originate Typhoid Fever or Syphilis. The twaddle written about "animal insanities" would be amusing if it were not so dangerous; it betrays a strange ignorance of animal life and animal pathology.

In connection with this subject, and in the same category as the "mental" genesis of Rabies and the "dish of water" test, come the reputed remedies, prophylactic or curative, for the disease. These are innumerable, and unfortunately have no more claim to consideration than the developmental and "water" notions. The latest of these remedies is the *Xanthium spinosum*, brought under notice by Dr. Grzymala, of Krivoe Ozoroe, Podolia (see the *Veterinary Journal*, vol. iii., p. 312), who asserted that he had employed the leaves of the plant in powder (nine grains three times a day for three weeks), and in more than a hundred cases only one proved unsuccessful. This alleged success caused a great sensation in this country and on the Continent, and was everywhere quoted. For centuries such successes have been reported; and though all the reputed remedies or preservatives have, after obtaining a certain number of partisans and imposing for a while on the credulity of mankind, been proved to be impotent, yet so constituted is the popular mind that it readily yields itself to every fresh deception, and cherishes illusions as long as it possibly can,—particularly with regard to this disease.

Last January we reported the failure of *Xanthium spinosum* to hinder the appearance of Rabies in animals; and in the *Archives Vétérinaire* for Dec. 25th, 1876, we have a second series of experiments reported, which are, if possible, still more conclusive of its impotence. We can only hope that those medical men who commit themselves to the opinion that Rabies and Tetanus are due to moral influences will avail themselves of an early opportunity to study these maladies in animals, and the reputed remedies for them. Prophylactic remedies crop up in abundance, but few for the cure of the disease. This is due to the fact that every dog which bites people is not rabid, and that only a variable, and generally small, proportion of those actually inoculated with rabific saliva are ultimately infected: consequently, a preservative may maintain its reputation for some time, simply because there is nothing to be preserved from. This will account for the success of all the reputed specifics which are not subjected to such a crucial experimental test as the *Xanthium spinosum* was at the Alfort Veterinary School.

On August 23rd, Professors Trasbot and Nocard carefully inoculated eleven dogs (seven of which were puppies) with saliva from a living rabid dog. Six of these received every day a dose of the Xanthium in proportion

to their size. The other five were left alone, to testify to the virulence of the saliva with which they had been inoculated. On Sept. 6th, thirteen days after inoculation, dog No. 2—one of those submitted to Dr. Grzymala's treatment—showed all the symptoms of Rabies, and died on the following day, after covering dog No. 1 (also inoculated) with bites, and breaking its right thigh. On Sept. 7th ten inoculated dogs remained, and of these Nos. 1, 5, 6, 7, 8 received the Xanthium every day in the form of pills. The last four dogs received the pills (one gramme of Xanthium every day) until Sept. 17th; while No. 1 (a two-year old terrier bitch) got ten grammes daily until Sept. 27th inclusive, in consequence of the wounds it had received from No. 2 on the 6th of that month.

From Sept. 20th to Oct. 27th the seven young dogs died in succession, after presenting certain fugacious nervous symptoms which were not sufficiently marked to indicate that they were related to Rabies: the alteration in the voice, tendency to aggression, and ingestion of foreign substances, were all absent in them, so that the existence of the malady could not be definitely established. For, with regard to experimentation, only those facts which cannot be gainsaid should be accepted, and all doubtful observations be put on one side. The death of these seven animals is therefore only mentioned, and no deductions in favour of the conclusions arrived at were made with respect to them.

On Nov. 24th dog No. 1 offered all the symptoms of Rabies: hoarse stridulous voice in two tones, difficult deglutition, and marked excitability; nevertheless, it did not attack its cage companion, and seemed to pay no attention to it. On the 25th the symptoms were still more definite: the voice was weak, hoarse, and scarcely audible; the constriction in the region of the throat was most intense; the eyes were sparkling, injected, and haggard; and the litter in the kennel completely pulverized. The creature died during the following night; and when opened the next morning, the stomach was found to be filled with straw, the intestines containing only a few fragments.

In *résumé*, two of the dogs inoculated with rabific saliva, and submitted to the treatment recommended by Dr. Grzymala, died rabid—one only thirteen days after inoculation, and after having received 125 grammes of powdered Xanthium; the other eighty days after being bitten by the preceding dog, and although during the twenty-five days after inoculation it had received daily ten grammes of Xanthium powder in pills,—an enormous dose when compared with the size of the animal,—four and a half kilogrammes.

This series of experiments, together with those alluded to in a previous number of the *Veterinary Journal*—and particularly that of dog No. 1 in this series—demonstrate in the most convincing manner that the *Xanthium spinosum* cannot cure Rabies, neither will it prevent its development after natural or experimental inoculation with rabific saliva.

MM. Trasbot and Nocard deserve much credit for furnishing us with this instructive demonstration; for if it be true that the administration of a remedy *reputed infallible* may spare some unhappy people from the terrible anxiety which succeeds the bite from a mad or suspected dog, by acting as a *placebo*, it is not less evident that it was necessary to furnish human and veterinary medicine with reliable information as to the real value of the highly-vaunted nostrum, and the danger that must result from adopting it and neglecting *immediate recourse* to those precautions whose trustworthiness experience has proved up to the present time—suction of the wound, circular ligature above the bite—where it is possible, cauterisation, etc.

THE FITZWYGRAM PRIZE COMPETITION.

THIS prize competition, which will probably take place on March 21st, is open to students of the veterinary schools in this country, and also to graduates of the R.C.V.S., who have obtained their diploma since May, 1876.

The prizes are three in number. The first is of the value of £50; the second £30; the third £20.

The competition will take place next April. It will consist—1st, of a written, and 2nd, of a practical and *vivâ-voce* examination, on subjects pertaining to veterinary science.

1,200 marks will be assigned to the first part, and 600 marks to the second part.

In the first part the marks will be assigned as under—

Anatomy, 300; Physiology, 300; Pathology, 300; Chemistry, 150; Botany and Materia Medica, 150.

In the second part as under—

Diagnosis of Disease, 200; Shoeing, 100; Examination for Soundness, 200; Selection of Horses for Specific Purposes, 100.

A competitor failing to obtain *half the number* of marks assigned to any of the papers in the written examination, will be excluded from the second or *vivâ-voce* examination.

The examination papers, with number cards, and blank sheets or books for the competitors to write upon, will be forwarded under cover to the superintendents or other appointed persons, so as to be received by them as near the day fixed for the examination as possible.

Writing materials for each competitor will be provided, and all arrangements for the accommodation of the competitors completed, before the hour fixed for opening the envelope containing the questions.

* Competitors should be in their places at the time appointed; no extra time will be allowed to competitors who come in late; they will, however, be allowed to take their place if they come in before any one has left the room.

* The numbered envelope containing the questions of the series to be answered (No. 1, 2, or 3, etc.) must be opened at the hour fixed, by the superintendent in the presence of the competitors. A copy of the questions will be given to each competitor, with a card, on which is a number; this number is that which the competitor will bear during the examination, and on each paper or book given him to write his answers he must insert this number at the right-hand upper corner, for the purpose of final identification. No examination paper shall be taken from the room until the examination is complete.

The superintendent or other person appointed must carefully watch the whole examination, and guard against the competitors using unfair means, such as resorting to books or notes. No person except the superintendent should be permitted to be present, and competitors should on no consideration be allowed to speak to each other after the copies of questions have been distributed.

* At the expiration of the period fixed for answering the questions, writing will at once cease, when the written papers must be signed at the end by the superintendent, as a guarantee that they were written by the gentlemen whose numbers they bear. He then collects them and the tickets; and when the examinations are finally concluded, encloses them in a sealed envelope, and forwards them by the earliest opportunity to the address indicated below, along with the declaration duly filled in and signed. If no clock is in the room, the superintendent is to announce the expiration of each hour.

The superintendent enters in a book the name of each competitor, for verification, as well as the number on the ticket he has given him. The name and number are not revealed until the examiners have awarded the marks to each subject.

N.B.—The paragraphs marked * should be read aloud to the competitors before commencing their writing.

Competitors are prohibited, *under pain of instant dismissal*, from introducing any book, manuscript, or references of any kind, into the examination-room, from communicating with or copying from each other, and from communicating with any person outside the examination-room. Every competitor is desired to write his number *very distinctly* at the top of the first page of each of his answer-books, and is warned that if any portion of his answers be left upon *separate* leaves, they may not improbably be lost. *Answers to be written on only one side of the paper*, and each answer to be marked on the *left-hand margin*, with a number corresponding to that of the question.

The names of intending competitors are to be forwarded to the Secretary of the Royal College of Veterinary Surgeons, 10, Red Lion Square, at least one week before the date of competition.

The first portion of the examination will take place in London for the Royal Veterinary College, and in Edinburgh for the Scotch schools.

The five best competitors in the first or written examination will be selected for further competition in the practical or *viva-voce* test.

This further competition will be held in London this year.

The donor will give an allowance of £4, for travelling and other expenses, to each selected competitor proceeding from Edinburgh to London for the second part of the competition.

Reviews.

OUTLINES OF EQUINE ANATOMY: A MANUAL FOR THE USE OF VETERINARY STUDENTS IN THE DISSECTING ROOM. By John Henry Steel, M.R.C.V.S.

The production of a work of any description by teachers at the Royal Veterinary College, is such a rare event as to cause astonishment; the publication of a book by veterinary teachers for the guidance of students, is an unprecedented occurrence. Though the school has been in existence for more than eighty years, and claims the distinction of being the *Alma mater* of veterinary science in Britain, yet it has only, during this long period, produced two little books—on materia medica—which may be designated manuals, and neither of which were written by veterinary teachers, properly speaking.

Not only has the school failed in this most essential duty, and neglected to advance veterinary science by fostering and adding to its literature,—but, like the dog in the manger, there is only too much reason to believe that the fact of others attempting to do so was most unpleasant to it, and that only too frequently its efforts have been directed towards discouraging rather than encouraging writers. The result is here again evident.

A change, nevertheless, must occur, and that soon; and we gladly hail a forerunner of it in the little manual, the title of which heads this notice. Thanks, however, to the exertions of several veterinary surgeons, students were already well provided with excellent text-books on the anatomy, not only of the horse, but of all the domesticated animals; there was, therefore, less need for assistance in this than in other branches of their studies—physiology, therapeutics, pathology, surgery, etc.

There is little scope for criticism in the "Outlines." It is evidently not intended for the advanced student of equine anatomy—and we cannot discover that it gives us any new facts. The absence of woodcuts will be a drawback to the beginner, in refreshing his mind after working in the dissecting room; for, after all, our knowledge of anatomy is not perfected there—a fact of which writers of books on human anatomy are fully aware, and which Continental veterinary teachers fully comprehend. Some of the details differ from those given in other text-books, and from what we ourselves have observed; but this difference may be due to the circumstance that the *ass* only is dissected at the Royal Veterinary College, seldom or never the horse—a great disadvantage to students; and as the anatomy of this creature differs much in some respects from that of the horse, this may account for the discrepancies.

One of the traditions in Camden Town is that the distal or lower extremity of the true rib is *convex* and *coated* with *articular* cartilage. This tradition, like some of the other traditions, is peculiar to the school, and it may be founded on a chance instance; but it is repeated by Mr. Steel at page 59, and possibly he may have seen this deviation. In no other work on the anatomy of the *horse* is the true rib so described; and in no instance, except in old horses, when the prolonging cartilage has become ossified, have we noticed anything like it. At a former period, when this matter was discussed, we made a careful examination of many skeletons of horses, procured dozens of ribs from the knackeries, and found the description given in Chauveau's work to be quite exact. Not only this,—but to make assurance doubly sure, we examined skeletons and ribs of horses in the Museum of the Royal College of Surgeons, along with Professor Flower, the Curator, who uses Chauveau's Anatomy as his dissection manual, because of its correctness; and in this instance, as in almost every other, it was not at fault.

If Mr. Steel is determined, in spite of discouragements, to work and write for the profession, we anticipate great benefit from his efforts. He has lost no time in proving that he is willing; of his ability we have every reason to be satisfied; while his position should afford him ample leisure. We trust he may soon give us something more valuable than the "Outlines," valuable as they will undoubtedly prove to the junior student.

A Course of Lectures on Physiology. By Küss, Duval, and Amory. London: Baillière, Tindall, & Cox, 1876.

This is a manual of physiology, based on a course of lectures delivered by Professor Küss at the University of Strasbourg, edited by Professor

Duval, and translated from the second French edition by Dr. Amory. The work is in several important particulars to be highly commended as a text-book for advanced students. The facts in physiology are clearly and concisely stated, and the relations of the latter to histology presented in an interesting and very instructive manner; while all the most recent researches, and especially those of Continental investigators, are lucidly set forth and embodied in the work, so as to give the student an excellent idea of the present state of physiological knowledge. Some of Professor Küss's views are peculiar and striking; and particular stress is laid upon the part played by cells. Altogether, the work can lay claim to remarkable conciseness, lucidity, and completeness. Within the space of about five hundred pages everything the student requires to know of physiology is to be found. The translation appears to be correct; it is certainly pleasant to read. Until veterinary students are provided with a text-book on the physiology of the domesticated animals, they could scarcely do better than avail themselves of the assistance to be derived from this excellent little book.

Abstract of the Proceedings of the Royal College of Veterinary Surgeons, Veterinary Medical Societies, etc.

ROYAL COLLEGE OF VETERINARY SURGEONS.

SPECIAL MEETING OF COUNCIL, HELD FEBRUARY 6TH, 1877.

Present—Col. Sir F. Fitzwygram, Bart., President, in the chair; Professors Simonds, Brown; Messrs. Batt, Collins, Duguid, Fleming, Gowing, Greaves, Harpley, Hunt, Moore, Naylor, Pritchard, Withers, and the Secretary.

The SECRETARY read the notice convening the meeting.

The minutes of the last meeting were read and confirmed.

Correspondence.

The SECRETARY stated that a letter had been received from Mr. Field conveying his sincere thanks to the President and Council for the letter of condolence and sympathy that had been sent to him on the occasion of the death of his son, Mr. Wm. Field.

Letters had also been received from Mr. Fleming, Mr. Harpley, and Mr. Lambert, acknowledging the honour of their election as members of the Scotch section of the Court of Examiners.

A letter from Mr. Payne, asking that his son, who had been rejected three times, might be allowed to again present himself for re-examination.

The SECRETARY stated that in answer to this he had written to the effect that the President was unable to comply with Mr. Payne's request.

A second letter, dated 2nd February, was then addressed by Mr. Payne to the President, respectfully urging him to re-consider his decision.

After some conversation, it was decided that the President should write to Mr. Payne on the subject, and that the question be for the present postponed.

Election of First Fellows.

The SECRETARY stated that replies had been received from fifty-two gentlemen, all of whom were desirous of being elected Fellows under the Supplemental Charter; fourteen had declined the honour, and there were ten from whom no reply had been received.

Letters were then read from Professor Walley proposing the names of certain gentlemen as being eligible for being elected Fellows, and from Professor Ferguson recommending certain gentlemen as Irish Fellows.

The Council were then engaged for some time in discussing the qualifications of the following names that had been proposed in addition to those already on the list:—Mr. Clement Stephenson, President North of England V.M.S.; Mr. Matthew Hedley, President North of England V.M.S.; Mr. George Poyser, Original Research; Mr. George A. Lepper, Vice-President R.C.V.S. 1867, 1875; Mr. Clement Lowe, Vice-President 1870, 1871, 1872, 1873; Mr. Joseph Hewitt Welsby, Original Research; Mr. Bamfield Kettle, Original Research; Mr. Graham Mitchell, Original Research; Mr. John Stewart, Original Research; Mr. William Dewar, President North of Scotland V.M.S.

The Committee of Selection from Ireland accepted for further enquiry the following names:—Mr. James King, Belfast; Mr. David Paley, Dublin; Mr. Thos. Simcocks, Drogheda; Mr. Matthew Murphy, Dublin; Mr. John Jenks, Dublin; Mr. Charles Joseph, Dublin; Mr. Thomas Richardson, Clonmel.

A letter from Professor Walley, Veterinary College, Edinburgh, was read, in which he stated that as a Member of Council and of the Fellowship Committee he had great cause of complaint in not having been made officially acquainted with the proposed alteration in the election of "Primary Fellows" under Mr. Greaves' proposition—namely, that those who had been practising with the Highland and Agricultural Society's certificate, and who had been fifteen years in practice, be admitted. This, in his opinion, would lead to much dissatisfaction.

Mr. GOWING said that, on due reflection, he had come to the conclusion that those gentlemen who had been enabled by the suspension of a byelaw to be brought before the Examiners, had been accepted by the Council, and had received the diploma of the R.C.V.S., should become members of the body corporate.

The PRESIDENT then proposed that those whose names had been previously considered be now accepted, and that the above names that had been discussed be referred to the Committee, and that the Committee be authorised to write or make further investigation, should such a course be found necessary. The whole of the Fellows could then afterwards be elected together.

This suggestion was agreed to, and it was also resolved that those gentlemen from whom no replies had been received be again written to.

Presentation to the Library.

The SECRETARY announced the presentation to the Library, by Mr. Fleming, of the sixth part of his work on "Veterinary Obstetrics."

On the motion of Mr. HARPLEY, seconded by Mr. HUNT, a vote of thanks was passed to Mr. Fleming for his presentation.

The PRESIDENT stated that Mr. Collins, Mr. Duguid, and Mr. Dray had been appointed a committee to consider the advisability of removing "Pharmacy" from Clause 6 to Clause 8 in the Education Scheme; but of these three gentlemen only Mr. Collins had attended, so that the report

would have to stand over until next meeting. The Court of Examiners had also been appointed to consider the proposed alteration at the Examination Tables on Horse and Cattle Pathology; but it appeared that this change could not be made under the existing byelaw. All that could be done at present, therefore, was for him to give notice that he would move, in lieu of Byelaw 37, that "At the second examination there shall be three tables, one for physiology, pathology, and morbid anatomy; one for veterinary medicine and surgery as applicable to horses; one for veterinary medicine and surgery as applicable to other animals; time at each table, twenty minutes."

Representative to the Royal Agricultural Society.

The SECRETARY stated that a letter had been received from Mr. Jenkins, Secretary of the Royal Agricultural Society, asking him to move the Council of the R.V.C.S. to nominate one of their number to act as their representative on the Veterinary Committee of the Council of the Society.

The PRESIDENT thought that as Mr. Harpley had taken a great deal of interest in the Royal Agricultural Society, and had attended one or two of their meetings, he would be a very good representative of the Council on the Veterinary Committee. He therefore begged to move that Mr. Harpley be elected for the post.

Mr. MOORE seconded the motion, which was carried unanimously.

Mr. HARPLEY, in returning thanks for the honour which had been accorded to him, said it was due to the Council that they should know the feelings of the Royal Agricultural Society in this matter. They had for a long time wished that some direct communication might take place between the Council and their own body, and they thought that if a representative from the Council were placed on the Veterinary Committee their object would be attained. With a view to bring about this necessary amalgamation, he had been asked in a private capacity to attend their meetings, and he had done so. At their last meeting they felt it would be an advantage to both the institutions if some one were elected to represent the Council of the College officially. In consequence of that, a letter had been forwarded to the President, asking the Council to elect a member. It was very necessary to have some one to hold direct communication with the Royal Agricultural Society, for they had offered what he considered a most admirable thing—namely, prizes to the best students for the year; and if a favourable report was returned from the Examiners, the Royal Agricultural Society would, no doubt, extend the benefits to the members of the College. He was able to say that the Royal Agricultural Society had a great desire to assist the Council in every possible way.

New Form of Diploma.

The design for the new diploma was submitted to the Council, and referred back to the engraver for further alterations.

Alteration in the Present System of Examination.

The PRESIDENT moved "That notice be given to the Schools that the present system of examination will cease after the Christmas examinations of 1878, for students who entered previous to October, 1876." Professor Simonds wished that the latter words should be added. They were certainly not, in his opinion, an improvement; but as Prof. Simonds had principally to do with the School, he (the President) thought the words should be added.

Mr. FLEMING seconded the motion, which was carried.

Election of Examiner in room of the late Mr. W. Field, jun.

The PRESIDENT said he was under the impression that it would not be

necessary to elect an examiner, and that the remaining six would be sufficient; but on referring to the byelaw, an alteration of which he had given notice, he found it was necessary that there should be seven examiners at the second examination. Practically the additional examiner would only be required for six months, until the new byelaw, of which he had given notice, came into operation. With a view to amalgamating the Scotch and English sections, he would propose Mr. William Robertson, of Kelso, and he had reason to believe that that gentleman would accept.

Mr. GREAVES, in seconding the motion, said he knew that Mr. Robertson was a most efficient examiner.

The motion was put and carried.

The Prevention of Contagious Diseases in Animals.

The following letter from the Privy Council was read:—

"Veterinary Department, Privy Council,
"44, Parliament Street, Westminster.

"SIR,—It has been suggested that the discovery and prevention of diseases of animals would be facilitated if veterinary surgeons were to give immediate information to the owners of horses and other animals which they are called in professionally to treat, of the existence of any contagious or infectious disease among their stock, in order that the owner may give the notice required by Article 5 of the Animals Order of 1875.

"The Lord President of the Council is of opinion that it is very desirable that the persons who are bound to give this notice should be reminded of their duty in this respect by the veterinary surgeons whom they call in.

"I am therefore directed by His Grace to request that you will have the goodness to bring this matter before the Royal College of Veterinary Surgeons, and to inform them that the Lords of the Council would feel much obliged if the College would in any way assist in the attainment of this object.

"I am, sir, etc.,
(signed) "C. L. PEEL.

"The President, Royal College of Veterinary Surgeons,
"10, Red Lion Square."

Mr. HARPLEY moved that the letter be entered on the minutes, and that a letter be sent to the Lord President, stating that the Council would have great pleasure in making known His Grace's wishes.

Mr. HUNT seconded the motion, which was carried.

This concluded the business of the first special meeting; and a

SECOND SPECIAL MEETING

was then held, for the further consideration and adoption of the byelaws which were submitted at the last meeting of Council.

The PRESIDENT explained that the alterations must be adopted *en masse*. They had been printed, and a copy sent to all the members of the Council. He would suggest, therefore, that the letterpress be kept standing, and after the new Council had been elected at the annual meeting any further alterations could be made if necessary, and, after the usual notice had been given, they could be finally settled about July. In the meantime, however, they must be adopted and confirmed. He therefore begged to move "That the byelaws be adopted, and that within fourteen days a special meeting be called to confirm them."

Mr. BATT seconded the motion, which was carried.

The next special meeting was fixed for Tuesday, the 20th inst., and the proceedings terminated.

CENTRAL VETERINARY MEDICAL SOCIETY.

AT an ordinary general meeting of the above Society, held Thursday, January 18th, at 10, Red Lion Square, W.C.,

Mr. J. ROALFE COX, alluding to the vacant chair, said: "Standing first on the list of Vice-Presidents, a melancholy duty devolves upon me. A subject fraught with so much sadness, and uppermost in the thoughts of each of us, can scarcely be considered out of place. Little dreamed we, at the last meeting of this Society, that we were so soon to be reminded that 'in the midst of life we are in death'; and the sad and sudden departure of William Field from amongst us was an intimation to each of us, 'Be ye also ready.' We have lost a valued friend, and this Society has lost in its late President a zealous and esteemed supporter and fellow-worker. Possessed of attainments and advantages in advance, perhaps, of most, and which he ever exercised in his profession's cause, I always admired William Field as a member of our calling, and can hold up no better example to the rising generation to follow. He ever delighted to exercise his talents liberally with his brother practitioners; and not the least gratifying testimony and tribute to his memory, is the recollection we can bear of him that in him was an honest man. I propose that a letter of condolence be sent to Mr. and Mrs. Field, expressive of our sincere sympathy in their sad hour of trial. I feel I express the wishes of every Fellow of this Society in testifying to the loss of a sincere and esteemed friend."

The motion was seconded by Mr. GOWING, sen., and upon Mr. Cox being called to the chair, it was put to the meeting and carried unanimously.

The ballot for the election of Mr. William Mole, of 1, Naylor's Yard, was proceeded with, and he was duly elected.

Professor Duguid, of the Brown Institute, Wandsworth, and Mr. T. G. Batt, of North Row, were proposed for election, and will be duly balloted for.

Professor AXE introduced a morbid specimen, with the following history, etc. It consisted of the vena saphena and a portion of the metatarsal and extremity of the plantar vein, the same being generally thickened, as also the valves, in which were several emboli. One of the tributary branches to the saphena was plugged with the coagulum, and there was a large clot attached to the internal surface of the vein itself. The subject was an aged cart-horse, which some weeks since received an injury to the coronet, on which supervened caries of the pedal bone. Being brought to the College infirmary, he was treated, but without benefit, the caries being advanced; he evinced no constitutional disturbance; a week or less prior to death he became suddenly prostrated; being lifted, he was set in slings, when constitutional symptoms became more apparent and intense, more especially in the respiratory tract—it being clear, from the absence of disease in the trachea, and of all the phenomena of Bronchitis, that the lung tissue itself was the seat of the disease, which *post-mortem* examination afterwards confirmed. From the time of being slung, the hind extremity—the seat of the lesion—began to swell from œdema of the skin and subcutaneous tissue, followed by an oozing of serum from various points, which in some parts of the leg became confluent and patchy, the serous effusion being in some instances attended with bleeding. Apart from the lesion shown in the specimen of veins produced, there was extensive caries of the pedal bone, and an almost complete disorganization of both lungs. The Professor assumed that the injury involved the bone in *ostitis*, on which supervened caries, from its acute and protracted nature; and through the softening and breaking down of the bone, the veins of the foot were exposed, and induced Phlebitis, not of a suppurative kind. This

gave rise o a coagulum of blood, which was liberated, and broke up in the form of emboli, gathering by accretion the fibrin, which materially increased their size, and, gravitating into the pockets of the valves during transit from the foot to the femoral vein, acted forcibly on the vein itself, causing universal thickening. The next point of interest was the implication of the lungs in the injury. Remembering the progressive increase in the size of veins towards the heart, there would be no interruption to a large clot passing into the right side of the heart and thence to the lungs ; that clots did so was proved by their existence in the pulmonary arteries (the tertiary), where were old clots fully exposed. The lesions in the lungs were essentially those of Embolism ; and universal rupture of capillaries, with hæmorrhage also, had led to sloughing. Professor Axe inferred that when horses die from so-called Inflammatory Fever, supervening upon diseases of bones and fistulas, if more care were taken in the examination of veins, they would be found to have their origin in Phlebitis, culminating in Aneurism of the Lungs.

The CHAIRMAN observed that the disease was recognised by all of us as a common form, the especial value of this one lying in the care with which the *post-mortem* examination was made.

Mr. GOWING, sen., asked Professor Axe whether he considered the caries and ulcerative process the first cause of clot formation, or due to the œdema impeding the circulation.

Professor AXE considered it arose from the vitality of the vessels being very much reduced, also their diameter. It was shown that the internal membrane was very rough, and had fibrous accretions.

The CHAIRMAN, in describing a specimen produced by him, said it was from a grey horse nine or ten years of age, used as a hunter, and to which his attention was casually directed as "not feeding well." He found nothing striking as to pulse or physique ; he was thin, lank in the neck, and had a general lack of flesh. Finding resistance offered to an examination of the mouth, he inferred he had been previously much dosed. He simply ordered "short commons" for that night ; but the next day was summoned to make a *post-mortem* examination of him, as he lay dead in the box, with the litter undisturbed. The liver was very small and hard, and constricted, as if tied with tape in several directions. Spleen enormously distended, hard and black, weighing sixteen pounds, or nearly three times that of the normal viscus, being apparently the result of continual congestion. The heart was notably large ; there was extensive disease of the aorta, and to such an extent that he thought it well to secure a large portion thereof, which he sent to Mr. Duguid.

That gentleman, being called upon to continue the remarks bearing on the case, said the heart was hypertrophied, the sinuses valsalvæ being completely filled with fungous growths, and thickened ; calcification and accretion in and under the coats of the vessels, the lining membrane thereof having given way, and the point of interest being that in the artery we had the granulations extending along the vessel passing from the aorta. No doubt Embolism was the cause of death. Respecting the previous history of the animal nothing could be learned, it being a recent purchase.

Mr. BATT had observed precisely similar appearances in the *post-mortem* of a horse, the subject of severe and painful Rheumatism. In this instance the pulse was only a little quicker than normal.

Mr. F. J. MAVOR said he would be glad to know if there were any diagnostic symptoms of aortic disease. He had found such animals show want of energy, and a loss of appetite and condition.

The CHAIRMAN believed if the stethoscope could be introduced into practice, we could better hope to diagnose all such cases. The specimen, though excellently preserved by Mr. Duguid, was very different to what it was when

fresh, when the fungous growth and elevations beneath the lining membrane and along its surface were like a piece of embroidery, being the most marked he had ever seen. It was a marvel the animal showed so little trace of any ailment.

In reply to a question, Professor AXE said he believed Mr. Liston's aorta was in the museum of the School of Anatomy at St. George's (Mr. Lane's old school), Liston himself diagnosing his complaint; with this diagnosis, however, his friends did not agree.

The subject was illustrated by two microscopes brought by Messrs. Batt and Duguid.

The meeting then adjourned. Present, eleven Fellows and two visitors.

JAMES ROWE, JUN., *Hon. Sec.*

LIVERPOOL VETERINARY MEDICAL SOCIETY.

THE usual quarterly meeting of the Liverpool Veterinary Medical Association was held at the Medical Institute, Hope Street, on Friday, the 19th of January, at 4 p.m., the President, Mr. Woods, Wigan, in the chair. There were also present—George Fleming, Esq., F.R.G.S., Royal Engineers; Messrs. Peter Taylor, Thomas Taylor, W. A. Taylor, Greaves, Faulkner, Hopkin, Alexander Lawson, Whittle, Barnes, T. Roberts, Joseph Welsby, Storrar, jun., W. Dobie, Kenny, Morgan, Cave, W. Elam, C. W. Elam, Harwood, Wm. Leather, Thos. Leather, Hutcheon, J. W. T. Moore, G. Heyes, Dixon, and the Secretary.

The minutes of the preceding meeting having been read and confirmed, Messrs. Faulkner, Manchester, and Dixon, Southport, were unanimously elected members of the Association.

In the absence of Mr. Leather, sen., Mr. William LEATHER proposed that the subscription to the Association be increased from ten shillings to the original sum of twenty shillings per annum. The proposal was seconded by Mr. Morgan, and there being no amendment, it was unanimously carried.

The PRESIDENT delivered the following address:—

"Gentlemen,—In rising to address a few brief remarks to you, I feel it to be my duty to thank you most cordially for the honourable position in which you have placed me to-night. Although I feel incompetent to occupy this chair as it ought to be filled, and willingly acknowledge my inferiority in this respect to my predecessors, I have accepted the distinction in the full assurance that the members will be patient with my inexperience and lenient towards my deficiencies in the conduct of these meetings. A much bolder man than myself might well hesitate to follow my immediate predecessor, Mr. Morgan, who has presided over the meetings of this Association during his years of office with an amount of tact and ability to which I can never hope to attain, and which it would be impossible to excel. But I feel sure I shall have your assistance and kind indulgence for any of my shortcomings, and you may rest assured that any defects will be due to want of knowledge rather than to want of courtesy.

"It appears that all subjects appertaining to the veterinary profession have long since been exhausted in addresses to the numerous associations similar to ours; so I shall only make a few remarks, which will be directed principally to the education of the veterinary student.

"One thing in particular has always struck me as remarkable—viz., that two opinions could exist with regard to the amount of education a pupil should be possessed of. 'As if he should go so far and no farther.' In my opinion,

a youth intended for the veterinary profession cannot be *over* educated, with this proviso—that he serves an apprenticeship to some duly qualified man; his fastidiousness against dirtying his fingers, and turning up his nose at offensive odours, will disappear as a love for his work is created; and if he has no love for it, the sooner he quits the profession the better, for he will never be any credit to himself nor benefit to his employers. But, gentlemen, if we are not to be educated equally well with the members of our sister profession, how can we ever expect the Legislature, or the public, to estimate us on an equality with them? and how can we ever expect to uphold the same status in society?

"I think a step in the right direction has been taken by the Royal College of Veterinary Surgeons, in prolonging the studies of the student from three to five sessions, or eight terms. When I was student we had only two sessions, and one examination. a

"I think this a gigantic stride towards the advancement of the profession, but we do not rest here; we have got the meetings of the Council of the Royal College of Veterinary Surgeons periodically movable from the Metropolis. They can now be held either in Edinburgh or Dublin, and I think we may next agitate to have them held in Liverpool, Manchester, and other large provincial towns. We can now vote by proxy for members of Council—a privilege we never before possessed; so you see we have had many small things granted, which collectively amount to a great deal, and I think we may confidently anticipate much more. In Professor Williams' opening address this session, he refers to one of the byelaws of the new Charter, which precludes a student ever presenting himself for re-examination after having been thrice rejected. I quite agree with Pofessor Williams in thinking this a very great hardship, for there may be some dry study which the student cannot master, or take sufficient interest in to thoroughly grasp, and, hoping the examination upon this head may not be a very stringent one, has neglected it; and, after all, the subject may not be one of vital importance to his success as a practitioner. I think if he has the determination to follow up his studies, I should certainly give him the chance of redeeming himself; and as he would have to pay a fee each time he presented himself before the Board of Examiners, he would not re-present himself without having devoted some time to that speciality in which he had previously been proved deficient. Now a word with regard to the preliminary examination at the several colleges. In my opinion it is not sufficiently stringent, and think the authorities would do well if they would make it more so, as it would make the students work before going in for it, and thus facilitate their labours at college; while it would give the professors themselves greater satisfaction if they knew that the students to whom they lectured had received a more liberal education than is at present necessary to pass the matriculation test. Indeed, I think it would be a deal better if, as with the sister profession, examinations were held periodically, so that a preliminary examination could be instituted before the student had even commenced his apprenticeship; then, if he failed, his prospects would not be so bad as at present, when failure means being thrown out of college for so long.

"I would now like to say a word with reference to the insufficiency of the fee allowed to veterinary surgeons for attendance and giving evidence in a court of justice. Surely our endeavours to allay the sufferings of the lower animals are only in degree inferior to the alleviation of the sufferings of mankind. One stipendiary magistrate, indeed, has said that 7*s.* 6*d.* per day is all he would allow for the attendance of a veterinary surgeon in court. Now, is this behaving fairly to the profession? Has such treatment as this a tendency to create in well-educated young men a desire to become members

of the profession? I think something might be done to make our fee equal to that accorded to a surgeon acting in similar circumstances.

"In conclusion, let me urge you to attend these meetings regularly and punctually. I am sure there is nothing so disheartening to a President as to see a lot of empty benches, a lack of subjects for discussion, or the want of a volunteer to bring forward a paper. Often when I have heard apologies read for non-attendance—and some do not even condescend to do that—I could not help thinking that instead of receiving a circular giving them due notice of the meeting, had it been a request from some new and desirable client, the time would, in all probability, have been most readily found. I also think the good derived from attendance at these meetings by listening to accounts of peculiar cases, by joining in discussions, and by knowing whether the treatment adopted in familiar cases is the best one, must be a source of gratification and of instruction to every man, no matter what his experience or attainments may be; and I am sure no one can come here without deriving some amount of knowledge which he did not before possess."

Mr. GEORGE FLEMING, Royal Engineers, then read an interesting and scientific paper on "Epilepsy and Vertigo."*

A discussion on the subject, and also upon points of treatment of the diseases introduced by the essayist, was entered into by Messrs. Peter Taylor, T. Taylor, W. A. Taylor, G. Morgan, C. W. Elam, Hopkin, T. Greaves, T. Roberts, and the President, upon which Mr. Fleming replied at length.

The following gentlemen were nominated for membership:—

Messrs. Townson, Liverpool; Joseph Hutchin, Liverpool; J. W. T. Moore, Chief Inspector of Privy Council for the Port of Liverpool; George Cane, Liverpool.

A cordial and complimentary vote of thanks was accorded to the essayist, and one also to the President.

At the termination of the meeting the members and visitors adjourned for tea to the Adelphi Hotel, and a most enjoyable evening was spent.

RICHARD REYNOLDS, *Hon. Secretary.*

MONTREAL VETERINARY MEDICAL ASSOCIATION.

THE reopening of this Association took place on January 11th, with a full attendance of members and several visitors. The chair was occupied by the President, Mr. D. McEachran, M.R.C.V.S.

Mr. John Bond, V.S., of Toronto, was elected a member of the Association.

The first paper read was a communication by Mr. G. SERMON, M.R.C.V.S., on the successful treatment of "Tetanus" by large doses of hydrocyanic acid.

Mr. WM. MURPHY, of Boston, read a paper on Navicular Disease, which was followed by an animated discussion, the PRESIDENT taking occasion to exhibit several pathological specimens, showing the condition of the tendon and bone in this disease.

The VICE-PRESIDENT, Professor Osler, next exhibited some interesting specimens, showing the condition of the lungs in Pneumonia in the dog, and consolidation of the lung in man from the same cause, the pathological anatomy of which he minutely described and illustrated by microscopic demonstrations. He also called the attention of the Association to a species of *strongyli* or *filaria* found in large quantities in the bronchial tubes of a

* This will appear in our next.

dog. These worms, which are often seen in calves and sheep, have not been met with before in the canine species. A beautiful specimen of *ante-mortem* clot in the heart of a dog was also exhibited and its formation explained by the Doctor.

A vote of thanks being passed to the essayists and Professor Osler, the meeting adjourned at 10 p.m.

At next meeting, to be held on the 25th inst., Mr. Lyford was to read a paper on "Elephantiasis," and Mr. Brown a communication on removal of a cartilaginous tumour from the eyelid of a horse.

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

THE usual quarterly meeting of the above Society was held at the Blackfriars Hotel, Wednesday, the 20th of December—Mr. John Lawson, President, in the chair. The following gentlemen were present: Messrs. Woods, Bunnell, Howell, Ashworth, Lock, J. Brooks, A. Brooks, Darnell, Hopkin, W. A. Taylor, Mulineux, J. B. Taylor, Ferguson, Whittle, Prescott, Chas. Ogden, Ed. Woolner, Tom Taylor, and the Secretary.

The minutes of the last meeting were read and confirmed.

Letters of excuse were read from Messrs. Welsby, Barnes, Cartwright, Schofield, Elam, Morgan, and Reynolds.

Messrs. Alf. Brooks, of Pilkington, and Thos. Briggs, of Bury, were nominated for election at the next quarterly meeting.

Mr. Hart, of Oldham, proposed by Mr. Dacre and seconded by Mr. Whittle, was elected a member of the Society.

On the Treasurer's accounts being placed before the meeting,

Mr. W. A. TAYLOR moved that the Treasurer's report be adopted.

This was seconded by Mr. WHITTLE, and carried.

Mr. WHITTLE proposed that a final appeal be made to those gentlemen in arrears with their subscriptions, before removing their names from the list of members.

An amendment to the above was made by Mr. W. A. TAYLOR, to the effect that the attention of members (owing above one year's subscription) should be called to an effort that was being made to collect the subscriptions in arrears, and that a book of the rules should be sent with the circular.

Mr. WHITTLE seconded this amendment, and it was unanimously carried.

The election of officers for the ensuing year resulted in Mr. Tedhar Hopkin being placed in the chair; Mr. John Lawson, Ed. Woolner, and Jas. Howell, Vice-Presidents; Mr. Alex. Lawson, Treasurer; and Mr. Dacre, Secretary.

Mr. JAS. HOWELL then read his communication on a case of disease of the palatine and superior maxillary bones in a mare. The morbid specimen Mr. Howell exhibited was of a very interesting character, and led to a diversity of opinion as to the nature of the disease and its origin. It was thought by most of the members to be a case of Osteo-Porosis. The principal symptoms exhibited were "quidding" of the food and slow emaciation.

Mr. W. A. TAYLOR read a short paper on a polypus in the vagina of a bitch, which he had successfully removed with the chain *écraseur*. The tumour measured three inches in length and one inch round, and was situated near the opening of the vagina—part of the polypus being exposed to view.

Mr. TOM TAYLOR proposed that the Society should purchase Mr. Thomp-

son's tooth shears, and that they should be placed in charge of the President for the time being, for the use of the members.

This motion was seconded and carried.

A vote of thanks to the Chairman and retiring officers closed the proceedings.

W. DACRE, *Hon. Sec.*

ROYAL AGRICULTURAL SOCIETY.

AT the monthly meeting on February 7th, Colonel Kingscote reported that the Hon. W. Egerton, M.P., had been elected chairman for 1877. Out of the nine candidates eligible to compete for the Society's veterinary medals and prizes, four presented themselves for examination, and the following was the report of the examiners :—

"We the examiners appointed by the Royal College of Veterinary Surgeons to test the qualifications of the gentlemen eligible to compete for the prizes offered by your Society to members of the Royal College of Veterinary Surgeons for proficiency in the pathology, causes, symptoms and treatment (preventive and curative) of cattle, sheep, and pigs, have the honour to report that we have adjudicated the prizes as below, and we are happy to be able to state that the whole of the candidates acquitted themselves entirely to our satisfaction, especially with respect to the practical examination.

"(Signed) { ROBERT L. HUNT. THOS. WALLON MAYER. DAN. GRESSWELL.

"Alex. B. Daniel, Royal Veterinary College, Camden Town—First Prize, £20 and Gold Medal.

"M. C. Yaxley, East Dereham, Norfolk—Second Prize, £10 and Silver Medal.

"F. Smith, Brunswick Villa, Shooter's Hill—Third Prize, £5 and Bronze Medal."

The Committee recommended that £34 13*s.* be paid to the examiners for fees and expenses, that cheques be drawn for the amount of the prizes, and that the Secretary be instructed to have the medals prepared. A letter from one of the examiners in reference to the arrangements for the examination was referred to the Council of the Royal College of Veterinary Surgeons. The Committee moved for a grant not exceeding £250 for veterinary purposes during the year 1877. Mr. Duguid laid before the Committee the following report on the recent outbreak of Cattle Plague :—

"For some time previous to the arrival in this country of a cargo of animals suffering from Cattle Plague, Germany had been what is termed a scheduled country under the Contagious Diseases (Animals) Act, and cattle coming from German ports could only be landed at the respective defined parts of the following ports :—Glasgow, Goole, Grimsby, Hartlepool, Hull, Littlehampton, London, Middlesborough, Newcastle-upon-Tyne, Plymouth, Shields (North), Southampton, and Sunderland, where they were to be slaughtered.

"The first of the recent outbreaks of Cattle Plague in Germany was on the Polish frontier in Upper Silesia. On the 13th January Cattle Plague was discovered at Hamburg, said to have been brought there by infected cattle *viâ* Berlin. On the 12th January, a cargo of forty cattle, already infected, had been shipped for Deptford, and arrived there on the 15th. One had died during the passage, and more died soon after their arrival.

"The Veterinary Department of the Privy Council, previous to the arrival of these animals, had warned the port inspectors to keep careful watch over all importations of German cattle, and at Deptford the inspector detected the disease, and communicated the fact at once to the chief inspector of the Department.

"An order was passed by the Lords of the Council, and published in a supplement of the *London Gazette* of January 16th, by which sheep and goats imported from Germany were placed under the same restrictions as had previously applied to cattle.

"In a letter to the *Times*, dated Hamburg, Jan. 15, it was stated that on Saturday, January 13th, a train of about 100 oxen arrived from Goslar, in the Hartz mountains, for shipment to London. The beasts were found ill by the town veterinary inspector, and on the 14th Rinderpest of an aggravated form broke out among them, so it is said. They have all been killed, and the carcases destroyed. The street in which the stable they were kept in was situated has been cut off from all communication, and a cordon of soldiers placed to guard it.

"A Reuter's telegram, dated Berlin, January 17 (evening), says:—'The *Official Gazette* announces an outbreak of Cattle Plague on the property belonging to the Concordia sugar refinery, near Brieg, in the province of Silesia.'

"On account of the further extension of the disease in Germany, and the possibility that infected cattle might be passed hitherwards through Belgium and France, an Order in Council was passed and published on the 19th January, whereby those countries were placed under the same regulations as Germany—the Governments of Denmark and the Netherlands being at the same time informed that those countries would be brought under the provisions of the Act unless they prohibited the importation and transit of animals from Germany. Subsequently it was considered necessary to make the regulation apply to both Denmark and Holland.

"As soon as Cattle Plague was detected in the cargo of animals that arrived at Deptford on the 15th January, they were isolated, and locked in one detached block of buildings where no one could enter or leave without the sanction of the market superintendent. A wide roadway separated this from any other portion of the market; in addition to which quantities of quicklime were placed at the different doors, so that any one entering or leaving the premises must walk through it. On the following day the work of slaughter and the destruction of the carcases was commenced. Special men were told off for the purpose, and not allowed to leave the building without changing their clothes; and a fumigator was at work disinfecting the clothes they had worn while at work. The mode of destroying the carcases adopted was to quarter them and subject them to the prolonged action of steam in a large iron cylinder, until very little of the carcase remained.

"On visiting the market on January 18th, I considered, from the precautions taken, there was no chance of the malady spreading, and that, as had been the case before, in 1872, when cattle affected with Rinderpest were landed at Deptford, the contagion would not spread beyond the market. In the present instance we have been more unfortunate, and Cattle Plague now exists among dairy-cows in the Limehouse district.

"The district inspector being informed by a dairyman of the existence of a rapidly spreading disease among his cows, found on visiting the place that a number of them were suffering from Cattle Plague, and communicated the fact to the Veterinary Department of the Privy Council. The whole of the animals were at once slaughtered, and the destruction of the carcases commenced.

"An Order in Council was issued, and came into operation on February 1st, prohibiting the movement from the Metropolis of cattle, sheep, and goats. A circular letter was also sent advising the local authorities of the fact, at the same time recommending that none but the most efficient inspectors be employed at the present crisis.

"The supplement to the *London Gazette* of Friday, February 2, contained a further Order in Council, to take effect on the 4th, prohibiting the holding of all markets or sales of cattle, sheep, and goats within the Metropolis, except as follows :—

"1. Cattle, sheep, or goats belonging to the owner or occupier of premises not in an infected place may be sold on those premises if they are not affected with Cattle Plague, and have been on those premises not less than twenty-eight days previous to sale.

"2. Markets and sales may be held under the license of the Privy Council.

"The Order also enjoins that cattle, sheep, or goats exposed for sale in a market, the holding of which for the sale of cattle, sheep, and goats for immediate slaughter is licensed by the Privy Council, may be kept alive for a period of ten days, and no longer, and that the owner, consignee, or other person exposing in a licensed market cattle, sheep, or goats, shall, at his own expense, mark them as follows :—Cattle—by clipping the hair off at the end of the tail, and by clipping a broad arrow, about five inches long, on the left quarter. Sheep and goats—by clipping a broad arrow on the forehead.

"Up to the evening of February 5th the disease had appeared in five dairies in the Limehouse district, but no cases had appeared in the Metropolitan Cattle Market."

Colonel KINGSCOTE having moved the adoption of this report, the President asked Professor Brown to favour the Council with a statement in reference to the recent outbreak of Cattle Plague.

Professor BROWN thereupon stated that, on the 16th of January 39 animals had arrived from Hamburg in the *Castor*, and were landed at the Deptford foreign cattle market, a place which was particularly adapted for its purpose—viz., for the reception and slaughter, within its limits, of cattle arriving from scheduled foreign countries. No difficulty was experienced there in dealing with these cattle. Those that did not die with the disease were killed, and all the carcases were put in iron digesters, and subjected to steam at a temperature of 400 degrees ; and there was every reason to believe that the disease would not extend beyond the confines of the place in which these cattle had been received. However, on January 29th, a disease of a suspicious nature was discovered in a dairy at Limehouse, and when he inspected the animals on Wednesday, 31st, at noon, he had no doubt that this was an outbreak of Cattle Plague. In less than four hours from the fact being established, an order was issued by the Government prohibiting the movement of cattle and sheep out of the Metropolis. Since then, up to last night (Feb. 6), Cattle Plague had manifested itself in seven other dairies, all within a limited district, bounded by the Limehouse canal, the river Thames, and the river Lea, and therefore, in fact, forming a kind of island. Since the order just mentioned was issued, others had been enacted with a view of stopping sales in the various lairs and markets of the Metropolis except by special license. The metropolitan market at Islington and the Deptford foreign market had been licensed for the purpose of such sales, and it was not contemplated at present to license any other places for the sale of sheep or cattle within the metropolitan area. All animals sold at the Metropolitan Market would be marked for immediate slaughter, and all animals landed at Deptford were slaughtered within the limits of the market. The Government

had received the usual complaints from persons interested in the trade; but they had firmly determined not to allow of any relaxation of the regulations which they had found it necessary to impose with a view of preventing the spread of Cattle Plague into the country.

Earl SPENCER expressed his faith in the skill and experience of Professor Brown, and his satisfaction at the steps which had been taken by the Veterinary Department in stopping the exit of cattle out of the London area, and restricting the markets at which cattle could be sold within that area. The powers of the Privy Council appeared to be sufficient to enable them to take measures that were necessary; but it was important that every local authority should take time by the forelock, with a view to the immediate detection of disease in their districts, should it appear. He would be glad to hear what the local authorities in the various districts had already done. In the circular which had been issued by the Veterinary Department, a most serious announcement had been made—viz., that there was reason to fear that some infected animals had gone out of London before the cordon had been drawn, and he would like to have some explanation as to that statement. He trusted that every member of the Council would go back determined to obtain such regulations being enacted in his district as would enable them to detect at once any outbreak of Cattle Plague. If any special steps were necessary, the local authorities ought to be informed of them, and great weight would attach to any representation which might be made by the Council of the Royal Agricultural Society of England.

Mr. DENT expressed his satisfaction at seeing Professor Brown at the head of the Veterinary Department of the Privy Council, and eulogised the promptness and determination which had been shown in dealing with this outbreak of Cattle Plague. As chairman of the Cattle Plague Committee of the West Riding of Yorkshire, he had, on receipt of the circular issued by the Veterinary Department, summoned a meeting, which would take place the next day, and he trusted that they would take steps with a view to the detection of disease and the prevention of its extension, should it break out, identical with those which were adopted during the last outbreak.

In reply to Mr. MARTIN,

Professor BROWN stated with reference to the remark in the late circular —that there was reason to fear that some infected animals had gone from London into the country—the suspicion which he then had had not been confirmed. The principle on which he acted was, that the slightest rumour required to be considered, judging from the facts relating to the last outbreak, when the Plague had been six weeks in the East Riding of Yorkshire before its existence became known. As regards this outbreak, he, on learning the existence of Cattle Plague in Germany, immediately telegraphed to every inspector on the coast, and that action contributed to the immediate detection of the disease at Deptford market. Soon afterwards he ascertained that some animals had been removed from a shed in the metropolitan area, whereupon he sent to every inspector in the country. However, the man from whose shed these cattle had gone had no trace of disease on his premises; and it appeared that they were fat cattle sent, *bonâ fide*, in the ordinary course of trade.

He wished to suggest to the Council that although under these circumstances the alarm might be false, it was far better to give it than that ignorance of the existence of the disease should exist for a moment. He trusted that farmers would be cautious not to get manure from the metropolitan district. Some manure from Limehouse had, he had ascertained, been sent to the neighbourhood of Barking Creek; but the manure had been found, and steps had been taken that it should not be removed, and that it should be so dealt with

as to provide against any danger arising from it. He proposed still to go on with the system which had been inaugurated, and to give every information possible to the public through the local authorities.

Mr. BOWEN JONES thought they had heard a very instructive statement from Professor Brown, but it seemed to prove that the powers possessed by the Privy Council were not sufficient for the purpose; and although he had great faith in the judgment and resolution of the Professor, he thought it was the duty of the Council to try and insist upon more stringent regulations being adopted, both in the kingdom itself and with regard to the importation of foreign cattle. The insidious nature of Cattle Plague was perfectly appalling to stock-owners, and in face of the new system of importing dead meat from America, he thought they might justly insist, with regard to the importation of foreign cattle, that they should be slaughtered either at the port of landing or debarkation.

Mr. BOOTH, as one of those most interested in the cattle trade, agreed with Mr. Bowen Jones. He feared that there were very lax methods of inspection on the Continent, and he understood that the owner of these infected animals had telegraphed to his agent to slaughter them immediately after arrival. He thought that further steps were necessary to be taken in order to prevent the importation of diseases, and he trusted that the Council would memorialise the Government to stop the importation of live stock from all European parts.

Professor BROWN explained that according to the existing law all animals from scheduled countries are now slaughtered at the port of landing, but the existence of Cattle Plague at Limehouse proved that this was not sufficient to prevent the escape of disease from the defined part of the port. He had obtained from the master of the *Castor* the certificate of the Government Inspector, dated January 12th, certifying that the particular animals which arrived here infected with Cattle Plague were free from disease when inspected, although at that very moment some of them must have been dying of Rinderpest. One of them actually died on the passage, and twenty-seven out of the remaining thirty-nine died at Deptford before the slaughtermen could their work. He had ascertained that some animals from the same man's stables, at Hamburg, including some sheep, had been landed at Hull, but as Foot-and-mouth disease had broken out amongst the sheep, they were all slaughtered, and all but two cattle had likewise been slaughtered in Hull. Those two went to the neighbourhood of Wakefield, but no trace of disease had been ascertained to exist in that neighbourhood, notwithstanding most careful inquiries.

In reply to Mr. TORR, M.P., as to what had been done with the ship that brought the diseased animals,

Professor BROWN said that the ship went from Deptford to the wharf belonging to her owners. Afterwards, when the Cattle Plague had been discovered, the Veterinary Department caused the vessel to be disinfected under the inspection of one of their own officers. The Department had no power to prevent the ship from being immediately used again for the carrying of cattle, but the owners had voluntarily guaranteed not to use it for that purpose for another month. One difficulty, no doubt, is that the ship, after landing an infected cargo, may go to another wharf, and the infection may be distributed by means of the manure of the animals, as well as by the passengers and crew.

Mr. RANDELL stated that, in his judgment, the more they heard the more hopeless their condition appeared to be, without more stringent regulations. He thought the time had come to speak with no uncertain voice to the Government. All fat animals ought to be slaughtered at the port of landing,

and an efficient quarantine of all store animals ought to be enforced. The difficulty which was formerly feared that would attend the transporting of carcases had disappeared now that dead meat could be imported from America, and the Aberdeenshire farmers had for years found no difficulty in carrying on a dead meat trade with London. The English farmers did not fear the importation of carcases, but they did fear the danger of importing foreign diseases.

Mr. JACOB WILSON remarked that Professor Brown's reply to Mr. Torr made the matter more serious than it had appeared before, and he thought that Mr. Randell did not go far enough by stipulating for killing fat animals on this side of the water. He would kill all fat cattle on the other side—at any rate, as a temporary measure.

Mr. BOWEN JONES, to bring the matter to a practical issue, then moved the following resolution :—

"That a memorial be presented by this Council to the Government, impressing upon it the necessity of prohibiting the importation of foreign live cattle to this country, as a temporary measure ; and that uniform and compulsory measures shall be enforced throughout the kingdom for the suppression of contagious diseases in cattle."

Mr. DENT considered that store cattle were as dangerous vehicles for conveying disease as fat cattle ; and that quarantine stations were hotbeds of disease. He was not, however, prepared to vote for any such interference with the trade as Mr. Bowen Jones proposed.

Mr. BOOTH seconded Mr. Jones' resolution.

Earl SPENCER asked the Council to consider whether it was desirable to pass any resolution at the present moment. For himself, he had complete faith in the powers which the Government possessed, and if the Council passed such a resolution as that before them it would look like wishing to legislate in a panic, before we know whether the means already in our possession are sufficient for the purpose. He would move, as an amendment, that the question be postponed until the next meeting of the Council.

Mr. DENT seconded the amendment. In his opinion the Government had acted very promptly, and he trusted that the Council would not give a hasty vote. There was a consensus of opinion that there was danger in the foreign cattle trade, but the proposed remedy of importing dead meat had not yet been tried for very long—in fact, the American trade had only existed during the winter months. The previous outbreak of Cattle Plague in the East Riding of Yorkshire had been quickly suppressed, and this present outbreak had not yet gone beyond the metropolitan area. Therefore he would prefer to postpone coming to any decision until the next meeting.

Earl FEVERSHAM stated that it would be little consolation to those who might lose their cattle to be told that on previous occasions the outbreaks had been suppressed. He was of opinion that the precautions and regulations which had been taken were not sufficient, and that more stringent measures were necessary. He agreed with Mr. Bowen Jones that the Government ought to prohibit the trade in cattle from foreign countries.

Colonel KINGSCOTE was of opinion that delays are dangerous. The disease in question was the most insidious of all contagious cattle diseases. The Government had already done its utmost to prevent its extension, and as Parliament was about to meet, if the Government wanted more powers the Council would strengthen their hands in applying to Parliament for them, by passing a resolution at once instead of waiting for another month.

Professor BROWN stated that the Government had already prohibited the importation of live animals, and also of dead meat, from countries in which Cattle Plague existed, or in which it may be likely to appear. If the Council

asked the Lord President of the Privy Council to prohibit importation from all foreign countries, he was quite sure that the Council would meet with a negative reply. The subject was a very large one, and could not be adequately discussed in the short time at the disposal of the Council; but he might mention as an example that Denmark and Holland had in force the most stringent regulations, in accordance with an international agreement, chiefly with a view to protect themselves. They did not allow any ruminating animal whatever to pass their frontiers, either dead or alive, and not even a cat or a dog could go into those countries without being first disinfected. Therefore there seemed no reason why importation from such countries should be prohibited, and the prohibition of foreign importation as a whole was quite impossible. With regard to Belgium and Germany, that prohibition had already been made, and not only live cattle, but also flesh, hides, hoofs, hay, and other articles, were prohibited from being landed in England, while the Custom-house officers would not even allow the importation of bones from the countries mentioned. If an outbreak of Cattle Plague should occur in any of the countries not already scheduled, our consuls were on the alert, and immediate information would be forwarded, and the Government would then prohibit all importation from such countries.

Mr. TORR urged the necessity of unanimity on the Council. With that view he suggested that any representation would have much more force if made in the event of an increase of the present outbreak, as they could truly say they had at first forborne to press the Government in view of the measures already taken by them, but that in face of the extension of the disease, they felt it necessary to unanimously urge certain measures upon the Government. Such a memorial would, no doubt, have far greater force than one sent now by a divided Council.

Mr. RANDELL having supported Mr. Torr in this view,

The Earl of LICHFIELD expressed the hope that there would be no division on the Council. No member of the Council had expected that so important a resolution would have come before it; and although he could imagine that circumstances might arise to justify it, yet, to his mind, the Government had already adopted as stringent regulations as were possible under the circumstances.

Mr. BOWEN JONES then withdrew his resolution for the present, stating that he did so chiefly in consequence of the explanations which had been given by Professor Brown, and that he hoped that owing to the great importance of the matter it would continue to receive the most anxious attention of that gentleman and other officers of the Privy Council.

HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

AT the general meeting of this Society, held at Edinburgh on January 17th, Captain TOD, of Howden, said: "It will be in the recollection of those who attended the general meeting in June last, that on that occasion I reported that a deputation from the Society had waited, on the 24th of May, on the Lord President, at the Privy Council Office, for the purpose of supporting a petition for a charter to the Society empowering it to grant veterinary diplomas. I regret that I have now to intimate that the prayer of the society's petition has been refused. The letter from the Privy Council Office is in the following terms:—

"'Privy Council Office, *12th December*, 1876.

"'MY LORD,—I am directed by the Lord President of the Council to inform you that the Lords of the Council have given their careful considera-

tion to the petition of the Highland and Agricultural Society of Scotland, praying for the grant of a supplemental charter; and I am instructed to state that their lordships have felt it their duty to advise Her Majesty not to comply with the prayer of the petitioners. I have the honour to be, my lord, your lordship's obedient servant,

(Signed) "'C. L. PEEL.

"'The Earl of Strathmore, Vice-President,
"'Highland and Agricultural Society of Scotland.'

"This communication was before the directors on Wednesday last, when it was remitted for the consideration of the Society's Veterinary Committee. It is not for me to say what further steps the committee may recommend, or the directors adopt, but I may venture to state that I consider the Society is in a manner bound, in the meantime, to continue the examinations."

The Duke of BUCCLEUCH remarked that it seemed the officials in London were so convinced of the efficiency of the college there that no Edinburgh rival could be tolerated.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.

AT a meeting of this Society, held on November 9th, 1876, Mr. Henry E. Armstrong, Medical Officer of Health, exhibited the following pathological specimens:—

1. Heart, showing hæmorrhagic sub-peri- and endo-cardial infiltration.
2. Portion of black, engorged, and disorganised spleen.
3. Two specimens of pyloric extremity of fourth stomach, showing congestion of mucous membrane and submucous hæmorrhagic infiltration in spots and patches.
4. Two portions of duodenum, showing submucous hæmorrhagic infiltration.
5. Blood, drawn after death.

He then read the following paper on "An Outbreak of Anthrax in Newcastle-upon-Tyne":—

"The subject of this paper is the appearance of a disease which, so far as I have been able to ascertain, was, before the present outbreak, unknown in Newcastle either in man or among the lower animals; but which has during the past fortnight been fatally prevalent in certain cow-byres and stables in the borough, and has probably caused the death of a human being.

"For the diagnosis of the first recognised case, as well as for much other important information and assistance connected with this outbreak, I am indebted to Messrs. Stephenson and Elphick, veterinary surgeons."

Before entering on an account of the cases, he drew attention to the three divisions of Charbon as made by Chabert, and added that it was with the third division—*i.e., Charbonous or Splenic Fever*—that he had to do; and the manner in which the cases came under observation was as follows:—"On the 27th of October last, I was called by the Meat Inspector to give an opinion as to the fitness for food of the flesh of a cow reported to have been slaughtered to save the carcase, in consequence of sudden illness from overfeeding. The carcase was that of an animal in good condition. The flesh had the characters of good lean and fat beef. The only unusual circumstance noted was that the bloodvessels were not empty, as is usual in the dressed carcase—the lean being rather darker in consequence. This the owner accounted for by saying that the animal had not been properly bled. The first stomach was full of food, and digestion had evidently been going on. Although there was no evidence of poison, the stomachs and their contents

were examined ; but without finding anything to account for sudden death, beyond what was stated by the owner (who may be called A),—namely, that the animal had been overfed, which appeared to be borne out by the appearance of the flesh and condition of the stomachs. Altogether there appeared to me no proof, which could be laid before a magistrate, that the carcase was unfit for food ; and it was accordingly passed.

"On the 28th, the greater part of a second carcase of beef in possession of a butcher in the market was seized and destroyed by magistrates' order as unfit for food. It was stated that this carcase was that of a cow from the same byre as the foregoing, that had accidentally hanged herself in the stall.

"On the 30th of October, I was called to a slaughterhouse to examine a dressed carcase of beef belonging to one who may be named B. B stated that three cows in his byre had taken ill, and that the first of these had died very suddenly, and had been removed to the knacker's yard ; the second he had killed on the second day of disease, to save the carcase, which I was then asked to inspect. The third cow was also slaughtered, but was not yet removed from the byre.

"B believed his cattle had been poisoned, and blamed the hay, which was stated to be of the same kind as A was giving to his cows.

"Before giving an opinion on the fitness for food of the flesh, which was that of a well-conditioned animal, I consulted Messrs. Stephenson and Elphick, who considered the case to be one of Charbonous or Splenic Fever, or, as it is also termed, Splenic Apoplexy, and described the *post-mortem* appearances, which we then proceeded to look for, and found as follows :—

"The flesh was firm, though rather dark. The bloodvessels were loaded with dark blood ; patches and points of ecchymosis appeared on the peritoneum and pleura, and also in the areolar tissue and on the surface of and between the muscles. The pillars of the diaphragm were generally darker than normal, and in places livid, with air vesicles appearing between the muscular fibres. The mucous membrane of the fourth stomach was congested, and at the pyloric extremity (specimen exhibited) was studded with points of ecchymosis resembling petechiæ. The heart (exhibited) presented the following abnormal conditions : The left ventricle was empty ; the inner surface was extensively ecchymosed, very little of it being unchanged. The ecchymoses varied from deep-red to almost black in colour, raising the endocardium longitudinally, and presented the appearance of streaks of clotted blood upon the serous membrane, but could not be detached. The outer surface of the left auricular appendage was spotted with ecchymosis of various depths of colour, most numerous at the free extremity. Several patches and spots of subserous extravasation were noted on the inner surface of the auricle. Much of the epicardium appeared bluish in hue, from ecchymosis. The right ventricle and right auricle were somewhat similar in point of abnormality to the auricle and ventricle of the left side. Several spots of ecchymoses were observed at the base of the heart and on the surface of the great vessels. The spleen was asked for, but had been removed. The blood was everywhere dark and liquid.

"The carcase was condemned.

"On the same day I learned that a third cowkeeper (who may be called C) had been obliged to kill one of his cows on account of a supposed turnip in its throat. I was asked to inspect the carcase,—which I did, and found no turnip, but instead, pathological appearances like those described in the foregoing case. The spleen (part of which was exhibited) also was about three times its normal size, mottled and livid on its external surface, soft and disorganised internally, and distended with tarry-looking blood. The viscera

were marked with spots and patches of ecchymosis. Inquiry as to the food on which C's cattle had been fed elicited that the hay had come from the same place as A and B had got theirs from. The carcase was condemned, and C was advised to get some fresh hay, but did not do so; the result was that two other cows and a pony fell ill of the disease and died, each after a few hours' illness.

"On November 2nd, a cow, belonging to a milkman (D), was reported as having died after twenty-four hours' illness. The body had been removed to the knacker's yard. D stated that his cow had first shown symptoms of ailment by refusing food, had afterwards seemed in pain, and voided a quantity of black blood per rectum. Exhaustion and death supervened rapidly. At the *post-mortem* examination the intestines were found congested everywhere, and in many places almost black, and containing large quantities of dark liquid blood. The spleen was greatly enlarged, mottled externally, broken down, and distended with dark, tarry-looking blood. The hay on which D had fed his cow closely resembled that of A, B, and C. It was ascertained that this hay had been bought in a small quantity from a retail dealer in the market. Further inquiry has shown that in all probability the hay was of the same kind as the others.

"On the same day (November 2nd), notice was received that another person (E) had lost a cow and a horse—the former after six, the latter after ten hours' illness. Each was reported to have had a severe attack of convulsions shortly before death. The *post-mortem* appearances of the blood and tissues corresponded to those of the cases already described. It was ascertained that the cow and horse of E had been fed on the same kind of hay as the others.

"In addition to these cases there have been others in the town. In all, at the present time (November 8th), twelve cows and three horses have died in Newcastle from this disease. The pony belonging to C was affected in the throat with a form of Charbon termed Glosso-Anthrax. *Post-mortem* examination showed extensive exudation of greenish coagulable lymph near the base of the tongue and round the gullet and windpipe. The abnormal appearances observed at the *post-mortem* examinations of the cattle were also present.

"One horse, also affected in the throat, and presumably from the same disease, is still ill. This is, I believe, the only case in the borough that has not terminated fatally, either from the disease or by the hand of the slaughterer.

"Among the *post-mortem* appearances of cattle and horses affected in this outbreak, the most frequently noted or most striking have been—bloody discharge from the nostrils, rectum, vagina, etc.; extensive hæmorrhagic infiltration into the areolar tissues and serous cavities, especially the peritoneum, less often into the pleura and pericardium; marked engorgement and enlargement of the spleen, with breaking down of its tissue; ecchymosis and petechia-like spotting of the epi- and endo-cardium (especially the latter), pyloric extremity of the fourth stomach, and surface of the external muscles; congestion of the mucous membrane of the fourth stomach and small intestines; loading of the intestinal canal with liquid blood; almost emptiness of the cavities of the heart, with flabbiness of its muscular tissue; rapid decomposition of the tissues—the lungs, heart, and viscera, in some cases, becoming green and smelling offensively whilst still warm and steaming; hypostatic congestion of the tissues; and, lastly, the unusual condition of the blood itself, on which these abnormal appearances depend. One peculiarity of the blood always present in the cases examined was in its fluidity. his seemed to be greater in some parts of the

body than others. Thus in one cow the left ventricle of the heart contained about two drachms of thin watery-looking blood; in all the cases, that in the heart was very liquid, whilst that in the spleen was thick, and there was everywhere an almost entire absence of coagulation.

"Another peculiarity of the blood was its colour, which was for the most part a purplish-chocolate, but in the heart and other parts, where more fluid, it was of a dull smoky red, whilst where thicker, as in the spleen, it was darker and more tarry-looking.

"A third and characteristic peculiarity of the blood of this disease, and one noted in a sample drawn shortly after the death from one of the cows, is the presence of certain specific bacteria; in other samples of blood examined these specific organisms were not observed, probably from commencing decomposition."

Reference was then made to Dr. Sanderson's allusion to the bacteria often found in the blood. (See the *Veterinary Journal* for November, 1876, p. 367.)

"The symptoms in horses and cattle, during the outbreak, were somewhat as follows: The animals refused food, were feeble on their legs, and could not hold up their heads, had bristling coats and dull eyes. Some were restless, uneasily whisking their tails and twitching their limbs; others moaned, and appeared to have colicky pains; some passed bloody dung and urine; in two horses the throat was swelled. In all there was rapid collapse, and in at least two—a horse and a cow—violent convulsions immediately preceded the fatal issue."

Alluding to the transmission of the disease, he said: "Accounts of Splenic Fever *in man* have hitherto, I believe, all been given by Continental writers.* The case I am about to describe, although unfortunatel not verified by *post-mortem* examination, corresponds so closely in history and symptoms to the cases—human as well as animal—already given, that I think there is reason for considering it one of Splenic Fever in man. For the details I am indebted partly to Mr. May, the surgeon in attendance, and partly to the relatives whom, with Mr. May's concurrence, I interrogated after the death of the patient.

"The patient, a butcher, after having dressed one of the diseased carcases, was taken ill with excessive vomiting and purging. He had previously complained of pain in the loins, and appears to have had a presentiment of impending death. On the morning of Tuesday, October 31st, he was so unwell as to be unable to attend to business at the weekly cattle market. Mr. May was asked to prescribe for his vomiting and diarrhœa on Wednesday evening, and visited him for the first time on Thursday morning, when the diarrhœa had ceased, and the patient thought himself a little better. In the afternoon of the same day the patient had a convulsive fit, in which he died. After death, the thumb was observed to be turned towards the palm. The extremities and other parts of the body are said to have turned black, and there was oozing of blood from the nostrils. The deceased does not appear to have wounded himself in dressing the diseased carcase. The friends thought his illness and death were the result of a fall he had had a week or two before, but of this there was no evidence. *Post-mortem* examination was not permitted.

"This outbreak of Charbon is closely connected with the use of some coarse, reedy-looking hay grown on marshy ground at a farm in the country where the disease had been prevalent about the beginning of the present year.

* This is scarcely correct. A large number are to be found in English medical literature.—Ed. *V. J.*

Although brought to market at many different times, and sold sometimes in small quantities not booked, and occasionally re-sold, we have with care been able to trace a positive connection between the eating of this hay and the appearance of the disease in all the animals affected except two, and in these two the case against the hay is almost proved.

"Continental writers recognise the influence of morasses and stagnant water and forage tainted with decomposing organic matter as among the chief causes of Charbon. What was the original cause of the disease on the farm, I am not at present prepared to say."

Dr. EMBLETON asked as to the *post-mortem* appearance of the liver and skin of the animals that had died from Charbonous Fever, and whether any analysis of the tissues had been made. He said that much valuable information as to the disease was to be obtained from the French dictionaries of medicine. He suggested that Mr. Armstrong be asked to report to the next meeting of the Society any further particulars that might occur with regard to the present outbreak.

Dr. MCDIARMID asked whether the cattle affected showed any abdominal distension.

Mr. SPEAR asked if precaution had been taken to prevent the sale of the meat for human food, and spoke of the probable effects of the consumption of the flesh on the human frame. He inquired whether there were any history of inoculation, and alluded to the supposed connection between Ague and Charbon in certain marshy districts.

Dr. NEWCOMBE asked if the disease had been observed in any of the American beef which had lately been sold in Newcastle.

Dr. MACLACHLAN inquired as to the effect on human beings of drinking the milk of cattle so affected, and wished to know if means had been taken to prevent its sale.

Mr. ARMSTRONG thanked Dr. Embleton for the suggestion as to the French literature of the subject, and also said that the *post-mortem* condition of the livers of the cattle and horses he had examined was not striking ; the surface of the organ was occasionally mottled, and the substance somewhat congested hypostatically. The external surface of the skin, so far as could be observed, showed little departure from the normal state. The areolar tissue was, however, almost everywhere largely infiltrated with blood. The speaker had been informed that the owner of the farm referred to in the paper, suspecting poison, had had analyses made of the viscera and the contents of the stomach, but without finding anything to justify his suspicion. With regard to the question of Dr. McDiarmid, distension of the abdomen, from gas in the intestines, was usually present, and occasionally to a considerable degree. In reply to Mr. Spear, precaution had been, and would continue to be, taken that the flesh should not be sold for human food. There was no history of inoculation in the cases detailed in the paper—the disease in the quadrupeds being supposed to be entirely due to the matters taken into the stomach. Cases of Charbon, after inoculation, would show signs of external local affection during life—as, *e.g.*, Malignant Pustule. Splenic Fever was the same as Braxy in sheep, a disease common in Scotland, where the flesh of the affected animals is said to be eaten with impunity. Other names for the localised form of the disorder were—Black-leg, Black-quarter, Quarter-ill, etc. As regarded the death of the butcher after dressing the diseased carcase, the woman who had "laid out" the body had afterwards taken ill, with symptoms similar to those the deceased had suffered from, and which she attributed to contagion ; she was now recovering. In reply to Dr. Newcombe, the American beef was in no way connected with the present outbreak. The speaker had purchased some of this beef when it was first introduced into

town, and had found it of as good quality as any that could be put upon the table. In reply to Dr. Maclachlan, the milk of animals suffering from Charbonous Fever was unfit for food, and was likely to produce the same disease in the consumer. The cowkeepers had been cautioned, and there was no reason to suppose that any risk to human beings had been incurred through the distribution of milk so diseased.

The PRESIDENT requested that Mr. Armstrong would report any extension of, or other information as to, the disease at the next meeting of the Society.*

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.

AT a meeting held on December 12th, 1876, Dr. Forrest gave a history of a case of Hydrophobia, which occurred in his practice, and which he subsequently placed under the care of Dr. Dunlop, in the surgical wards of the Royal Infirmary. The patient was an engineer, aged forty, who had been bitten on the right thumb by a retriever bitch. From inquiries which Dr. Forrest made, it was clear that the bitch had been vicious, and that she was rabid at the time that she bit her master. She had a litter of pups ; one of these was bitten, and it, too, showed signs of Rabies before it died. The patient was bitten on July 22nd, 1876; and the wound, which had been freely cauterised with nitrate of silver, healed up, but re-opened just before the symptoms began to show themselves on September 24th. In the interval between the bite and the first symptoms of the malady, he read in the newspapers the account of the case of Hydrophobia in Falkirk, and that upset him very much. *It was never off his mind.* The symptoms began by an itching in the wound and uneasy tingling sensations, which extended up his arm to his neck and head. These continued for a day or two, when he became excited, frightened, and talkative, more especially as he discovered that he could not swallow liquids without some difficulty. On September 27th he was admitted into the Infirmary, where he died on October 1st from exhaustion. For several days he was in a condition of acute mania, and for the greater part of the time was kept under the influence of chloroform. Ice to the head and neck, chloral, and bromide of potassium in large doses, had no effect upon the disease. Dr. Foulis stated that the *post-mortem* examination of the nerve-centres failed to show the nuclear proliferation described by authors in the sheaths of the vessels. He inferred, therefore, that this lesion (which was found in some sections by Dr. Coats) was a very scattered one, and that it affected only a few of the vessels. Dr. Patterson related details of a case of Hydrophobia which was under his care in the Western Infirmary. Dr. Coats spoke of the *post-mortem* appearances, which were, to the naked eye, quite negative. On microscopic examination, however, he found a number of groups of inflammatory cells in the sheaths of bloodvessels, both in the nerve-centres and near the seat of the scar of the bite. These groups of cells he looked on as effused from the blood-vessels into the tunica adventitia, and even into the surrounding tissue. Some of the ganglion-cells in the nerve-centres were padded round with similar groups of cells. He thought there was here evidence of irritation in the scar, and from it to all parts of the body *per* the bloodvessels. The lesion was, therefore, a vascular lesion ; and not, as in Tetanus, where inflammatory traces had been noticed in the course of the nerves, a nervous

* Mr. C. Stephenson, M.R.C.V.S., Newcastle-on-Tyne, informs us that three more cases have occurred in a cowshed containing six cows—the three dying within twenty-four hours. In this instance, not the hay, but turnips were blamed, they having been brought from a farm where the disease prevailed.—ED. *V. J.*

lesion. The examination did not extend to the whole of the tissues of the body; and it was, therefore, only possible to infer that the lesion affected other organs besides the nerve-centres and the vicinity of the scar; but observers had recorded similar perivascular lesions in the liver and in the salivary glands (Klebs), etc. It might be argued that, the lesion being generalised, it could be of no local importance; but the same thing was seen in Tuberculosis, where a generalised lesion produced specially marked nervous symptoms as soon as it attacked the sensitive nerve-centres. The period of latency was another point of analogy to the case of tubercle, which often lay localised for years, and then suddenly developed itself as a general lesion. The generalised nature of the lesion explained to Dr. Coats's mind the varying symptoms of the disease—the mania from affection of the cortex, the hyperæsthesia and spasm from affection of the central parts of the brain, the hyperæsthesia and heightened reflex action over the surface of the body from the implication of the peripheral vessels.

Jurisprudence.

SELLING A GLANDERED HORSE AT WOLVERHAMPTON.

At the Wolverhampton County Court, on Monday, Jan. 22nd, before A. Martineau, Esq., Judge, an action was brought by Mr. Richard Pullen, of the Standiford Mill, Stafford Road, near Wolverhampton, to recover the sum of £50, as damages, from Mr. Samuel Stanford, horse-dealer, of Piper's Row, in the same town, for loss sustained through a breach of warranty given with a horse that was alleged to have been suffering from Glanders in the primary stage at the date of sale.

Mr. Joseph Underhill, of the Oxford Circuit (instructed by Mr. T. Gatis, of Wolverhampton), appeared for the plaintiff, and Mr. J. E. Underhill (of the firm of Messrs. H. and J. E. Underhill, of the same town), was for the defendant.

Mr. Joseph Underhill, in stating the case for the plaintiff, said the action was brought to recover £50 for damages for a breach of warranty. The original claim was for £55, but as that amount would have placed the case beyond the jurisdiction of this Court, the claim was reduced to £50. The facts of the case were very peculiar. Although the warranty was given on Dec. 14th, 1875, and its breach was discovered early in the past year, the animal for which it was given did not come to an end until the close of that year. The plaintiff was Mr. Pullen, a miller, who farmed his own land at Standiford, and the defendant was a publican and a horse-dealer, living in Piper's Row, Wolverhampton. On the 14th of December, 1875, Mr. Pullen came to Wolverhampton for the purpose of buying a cart-horse at Messrs. Sollom and Barnett's Horse Repository. He was unable to meet with one to suit him at that sale, and, shortly afterwards, saw the defendant, who recommended him to look over his own stock in the stables, and said he would probably find an animal that would suit him. He accordingly did so, and there found a fine, good-looking grey cart-mare. Mr. Stanford said she was a useful mare, was "sound, free from vice, and a good worker." However, he (Mr. Underhill) should not go into the two last-mentioned qualities, as the whole question at issue turned upon the mare's soundness. Mr. Pullen thought the mare would suit him, and he agreed to purchase her for £55. He had the mare taken away the same night, and the next day he called on

Mr. Stanford and handed him a cheque for £50. On that occasion Mr. Stanford was very desirous of avoiding further conversation ; he did not say anything then about the mare's soundness, but soon disappeared, leaving Mr. Pullen in his (defendant's) own house. The next day plaintiff's waggoner perceived that the mare was running at the nose. A few days afterwards he was with her in Wolverhampton, and whilst stopping opposite Messrs. Savage's malt-house, in Cleveland Street, a person of the name of Price, who came up, made a communication to Mr. Pullen's waggoner, which was sufficiently startling to induce him to tell his master without delay. On the mare arriving home, Mr. Pullen and his men made a minute examination of her, and found there was "a running" from her nostrils, which indicated that she was suffering from some disease. Mr. Pullen then came to Wolverhampton and saw the defendant, to whom he gave information about the mare's running at the nose. The defendant said, "There was nothing the matter with her except a little cold," adding that "she was perfectly sound, and all that she wanted was a little medicine." Mr. Pullen being desirous of exchanging the mare, asked Mr. Stanford to take her back again, but the defendant said she was a good worker, and induced the plaintiff to keep her. The running at the nose got worse, and shortly afterwards Mr. Pullen again saw the defendant and told him of that fact. Defendant advised Mr. Pullen to "turn out" and also to blister the mare ; he did so, but still she got worse, and to Mr. Pullen's surprise she gave birth to a fine colt early in March last. He had had no previous intimation that she was in foal, and although the colt was a fine, strong-looking animal, it died in eighteen hours after being foaled. It received no injury at the birth, but died from Glanders, the disease from which the mare in question was then suffering. In May last Mr. Pullen again saw the defendant about the mare, as she did not get better. Mr. Stanford, however, did not accept his offer to take the mare back again. In September last the defendant held out some hopes of meeting Mr. Pullen's wishes by saying he had better go and look over his stock and see if another animal would suit him. The plaintiff said he wished to dispose of the mare, as he would be liable for sending her out whilst she was suffering from Glanders. They then agreed to call in a veterinary surgeon to examine her, and Mr. H. D. Pritchard, the first veterinary surgeon whom they met with, was called in in September last. That gentleman examined the mare, and found that she was suffering at the time from what he thought a curable disease. The mare was subsequently seen by that gentleman's father, Mr. Richard Pritchard, and the two were agreed as to the disease being Glanders. However, although the mare was "doctored," she continued to get worse, and M. Beddard, another veterinary surgeon, was called in. He had some doubt as to the particular disease from which the mare was suffering, but as a test he suggested that a pony should be inoculated from the mare. A condemned pony was then procured, and was inoculated in "the thigh" from the mare, and, very singular to say, the pony died seven days afterwards. Messrs. Cartwright and Hill, veterinary surgeons, were also called in to examine the mare, and they advised that she should be destroyed. Before this advice was acted upon, notice to that effect was given to the defendant, and the mare was destroyed just twelve months after she was purchased. A *post-mortem* examination of the carcase was made, when it was discovered that she had been suffering from Chronic Glanders, and it was asserted that the defendant must have suspected at the time he sold her that she was so suffering, because he had her from the stables of the Shropshire Union Company, where there were several horses suffering from Glanders in November and December, 1875.

The plaintiff was then called, and confirmed the learned counsel's statements. He denied that he ever offered to sell the mare and then changed his

mind because she would spoil his team. If Mr. Stanford had offered to take her back, he should have been very glad to have let him have her, even at a sacrifice. Mr. J. Pullen, son of the plaintiff, also gave corroborative evidence, and William Price spoke to seeing the mare running at the nose several days after the plaintiff purchased her. He said he knew nothing about the Company having glandered horses in December, 1875.

Mr. Brock, a qualified assistant to Messrs. Cartwright and Hill, said the Shropshire Union Company had two horses suffering from Glanders in November and December, 1875. He also spoke to the mare in question having suffered from the same disease for some time previous to her destruction, but was not of opinion that she had been glandered twelve months.

Mr. J. W. Hill, a member of the Royal College of Veterinary Surgeons, was then called for the plaintiff. He stated that he was practising with Mr. H. J. Cartwright, in Wolverhampton. He described the result of the *post-mortem* examination which he made of the carcase of the mare. In the first place, he found that the nasal membranes exhibited the characteristic condition of Chronic Glanders, being of a dull leaden colour, and thickened in substance, with a cicatrix here and there of a healed ulcer. He next examined the lungs, and found they were full of yellow miliary tubercles. The yellow tubercle was what was termed fatty degeneration of the grey tubercle. They, therefore, must have been some considerable time in existence for the change to take place. The mare, he learned, soon after purchase gave birth to a foal which, he was told, only lived a few hours. On examining the uterus of the mare after death, he found within the left cornu three distinct glanderous ulcers, two being partially healed. The mucous membrane lining that organ was also inflamed and very unhealthy looking. From the condition of that organ alone, he had not the least doubt that the foal's death was due to hereditary Glanders. He explained that in Chronic Glanders there was very little constitutional disturbance until the final break-up. In fact, the contrary was the case in the mare in question. She was in full flesh and vigour, and yet in an advanced stage of disease in a passive state. If she had recently contracted Glanders the reverse would have been the case. He was informed that the discharge from the nostrils made its appearance, or was first observed, on the second day after purchase, and never ceased from that date up to the time she was destroyed, twelve months afterwards. In only one other disease would they get a discharge of that duration, and that was called "Nasal Gleet," from which the mare in question was perfectly free. He stated that the very fact of the mare remaining fat and sleek, gaining flesh, and never showing real symptoms of illness during the whole of that time, proved positively she passed through no incubative period of disease whilst in Mr. Pullen's possession. The mare could not contract the disease without being for a time, when in its acute or primary stage, exceedingly ill; and that Mr. Pullen assured him was never the case with the mare. Witness stated that he gave notice to the defendant that the mare was going to be destroyed, and that he had an opportunity of getting scientific evidence on his own behalf before she was destroyed, but he did not avail himself of the offer. He gave it as his positive opinion that the mare was suffering from Glanders on the day she was sold to Mr. Pullen.

Cross-examined.—The discharge from Glanders was of a gluey nature and of a dirty-yellow colour, or rusty if mixed with blood. Horses with Chronic Glanders would live for several years. He had no doubt whatever as to the long existence of the disease in the mare in question.

Mr. H. D. Pritchard, veterinary surgeon, spoke to finding the mare suffering from Glanders in September, 1876. He said a glandered horse, if well nourished, would live for twelve or eighteen months after being seized with the disease.

Cross-examined.—He was of opinion that the mare only had Glanders in September, but he would not swear that she had not had them longer.

Mr. E. Beddard, another veterinary surgeon, also described the character of the disease from which the mare suffered, and said she must have been suffering for a long time before she was destroyed.

Cross-examined.—She had had Glanders three or four months when he was called in to see her. He would not go so far as to say she was glandered when Mr. Pullen bought her, but he would not swear that she was not glandered at the time of purchase.

This was the plaintiff's case.

Mr. J. E. Underhill, for the defence, said Mr. Stanford was a very respectable horse-dealer, and sold largely to the Shropshire Union Company, and numerous other firms who kept horses. He (Mr. Underhill) should call evidence to show that the mare in question was perfectly sound at the time she was sold. Mr. Stanford lent her for a few weeks to the Shropshire Union Company, who kept her with their waggon-horses. They worked her from September up to the very day that she was sold to the plaintiff. When they first had her she was rather poor, but before she left she was considerably improved in condition. She was taken down to Mr. Pullen's by a drover, who met Mr. John Bishton on the road, and inquired of him for Mr. Pullen's place. Mr. Bishton noticed that she was in good condition, and, apparently, there was nothing the matter with her. Instead of Mr. Pullen complaining to Mr. Stanford about the mare a few days after she was sold, it was five or six weeks afterwards, and then she was only suffering from a cold. None of Mr. Stanford's horses were affected with Glanders, either before or after the mare in question was sold to the plafntiff.

The defendant was afterwards called, and corroborated the statement made by his solicitor. In cross-examination, he said that after Mr. Pullen complained to him about the mare, he called at Messrs. Cartwright and Hill's and saw Mr. Brock, whom he told that Mr. Pullen wished some one to go and see the mare in question; but he afterwards called and said they need not send. His reason for the latter proceeding was that he did not think it worth his while to go "messing" after the mare. When he saw the mare in May he considered she was suffering from "the Strangles," the result of a cold. She had had a colt, and very probably caught cold. She had been kept in the Shropshire Union Company's stables, with the waggon-horses. He did not send for her back again because he was told she was too good for the work.

William Pool, the manager of the team department of the Shropshire Union Company, said there was nothing whatever the matter with the mare when she was fetched away from their stables. She was worth £10 more when fetched away than when she was borrowed. While he had her he heard no complaint about her.

William Owen, a Shropshire Union waggoner, who drove the mare in question, also denied that the mare had a running at the nose when he drove her. He positively denied having said to Mr. Pullen's waggoner, "So you have got the dirty-nosed mare?"

Robert Turner and Thomas Pugh, both in the employ of the Shropshire Union Company, also denied that there was anything the matter with the mare when they had her; and John Bishton, who saw her on the road to Mr. Pullen's, said he perceived nothing the matter with her, but it was dark at the time.

William Bishton, the late manager of the Wolverhampton Corporation Team Department, spoke to having a conversation with the plaintiff about buying the mare, and said she seemed to have nothing the matter with her.

Mr. Hill, on being recalled, said the running at the nose might break out

suddenly at any time. It was not unusual for it to cease altogether for a time. In reply to His Honour, witness stated—"I base my opinion as to the long duration of the disease chiefly on the condition of the uterus. The ulcers or chancres there found were of a specific nature, and belonged entirely to Glanders; they would be a very considerable time in healing. It would be impossible, with the presence of those chancres, for a mare to bring a healthy foal. The foal *in utero* would contract the disease immediately the mare did, through the fœtal circulation. The determinate organs in tubercular diseases are lastly affected." Mr. Hill added that if His Honour wished it he could produce scientific works written by the highest authorities, to confirm his statements with regard to the long duration of Chronic Glanders.

His Honour remarked that he did not desire that to be done.

Mr. Joseph Underhill then replied on behalf of the plaintiff, specially referring to the evidence as to the mare coming from the Shropshire Union Company's stables, where there had been glandered horses.

His Honour, in giving his decision, said his mind was not altogether free from doubt. It had been sworn to by several witnesses, on defendant's behalf, that up to the day of the sale there was nothing the matter with the mare, but the following day she began to "run" at the nose. He was of opinion, from the evidence of Mr. Hill, that the mare was suffering from Glanders on the day that she was sold to the plaintiff. He then gave a verdict for the plaintiff for the full amount claimed, with costs.

The hearing of the case occupied several hours, and the Court was occupied by numerous gentlemen interested in "horsey" matters.

Army Veterinary Department.

Gazette, January 30.

VETERINARY DEPARTMENT.—The undermentioned Veterinary-Surgs. to be Veterinary-Surgs. of the First Class:—E. Ewing, Royal Artillery; J. A. Rostron, 5th Lancers.

Gazette, February 9.

VETERINARY DEPARTMENT.—Veterinary-Surg. on Probation. G. F. Davis to be Veterinary-Surg., vice J. Hume, deceased.

Veterinary-Surg. J. B. W. Skoulding, F Brigade, R.H.A., has been ordered to remain at Rawul Pindee, on the expiration of his leave of absence on medical certificate, for duty at that station.

Veterinary-Surg. H. Thomson has been directed to proceed from Cawnpore to Allahabad for duty with the Royal Artillery there.

Veterinary-Surgs. S. Gillespie, R.H.A, is transferred from Lucknow to Meerut; and W. Walker from Umballa to Jullundur.

Veterinary-Surgs. A. Bostock has leave to England to appear before a medical board; and J. K. Grainger to Bombay to appear before a medical board.

It appears that the following rule was established by the Secretary of State for India, and approved of by H.R.H. the Field-Marshal Commanding-in-Chief, so long ago as 1873, though for some reason or other it was never published until now:—"That a qualification of a minimum service in India of three years be in future required in the case of all Staff

Veterinary Surgeons nominated for employment in that country." In consequence of the rule in question not having been promulgated to the Veterinary Officers of the Army at the time, it is notified that the Secretary of State for India, on the recommendation of His Royal Highness, has approved of a slight relaxation of its conditions at present, until the officers have had time to qualify, with the distinct understanding that the three years' rule will be strictly enforced hereafter.

Considering the serious discontent at present existing in the Veterinary Department of the Army, and the fact that none of the best graduates of the Royal College of Veterinary Surgeons will join it, the relaxation alluded to may be looked upon as an attempt to remedy, to some extent, an obvious act of injustice, though we are left in the dark as to what the relaxation may be. Why, or how, this rule has been so long kept from the light we know not. It is certain, however, that before 1873, and since that period, promotion to the rank of Staff Veterinary Surgeon has been made in the case of those who had not the qualifying service in India. The Veterinary Department labours under many disadvantages and disabilities, which are every year rendering it less attractive to promising members of the profession; and so long as these drawbacks exist, and hidden mines like this continue to be sprung, it is certain that it will not recruit its ranks from among those who would do it credit or even decent service. There is a long tale of grievances often told, *sotto voce*, which makes a very bad impression on those who might be worthy aspirants, under more favourable conditions.

Obituary.

THE death of Mr. Charles William Clancy, M.R.C.V.S., of Kildare, Ireland, is reported. Mr. Clancy graduated April 24th, 1865. Mr. Wilmer Caudwell, M.R.C.V.S., of St. Neots, who obtained his diploma in 1820, has just died, aged seventy-four years; likewise Mr. W. Stratton, M.R.C.V.S., of Castle Bellingham, Ireland, who graduated so recently as April 29, 1867 and of Mr. William Fordie, Professor of Anatomy in the Glasgow Veterinary College.

The demise is also announced, on November 6th, of Professor Johann Emanuel Veith, doctor of theology, philosophy, and medicine, honorary canon of Salzburg, pastor of the metropolitan church of St. Stephen in Vienna, Commander of the Order of Francis Joseph, honorary citizen of Vienna, holder of the great "Salvator" medal, and director of the Imperial Veterinary Institute from 1817 to 1823. Dr. Veith was a very distinguished veterinary surgeon, and author of a work on "Animal Plagues" and many other scientific writings. At his death he was ninety years of age.

Notes and News.

EWE'S MILK.—At the meeting of the North British branch of the Pharmaceutical Society of Great Britain at Edinburgh on Wednesday, an interesting paper was read by Dr. Stevenson Macadam on "The Composition of Ewe's Milk." Having observed the extreme richness of ewe's milk as compared with cow's milk, and even goat's milk, Dr. Macadam arranged a series of trials as to the composition of ewe's milk yielded by animals fed solely on

good natural pasture, and on the same animals after being fed on extra diet, including linseed cake, cotton cake, and oats. Taking the total percentage of solids by weight in the milk, the average results were as follows:—Town dairy cow's milk, 12·27 ; country dairy cow's milk, 12·77 ; goat's milk, 13·43 ; ewe's milk on natural pasture, 18·75 ; and ewe's milk on natural pasture, with addition of feeding stuffs, 20·11 ; while, taking the fat in the solids, the town dairy cow's milk gave 2·58 ; the country dairy cow's milk, 2·88 ; goat's milk, 4·31 ; ewe's milk on natural pasture, 6·77 ; and ewe's milk with extra feeding, 8·27. The superior richness of ewe's milk under any circumstances of feeding over cow's or goat's milk was thus satisfactorily proved.

PRESERVING ANATOMICAL SPECIMENS.—For rapidly preparing bones and ligaments for museum purposes, Dr. L. Frederick recommends that, after the soft parts, except the ligaments, have been removed, the preparation should be washed in water, dehydrated by alcohol, and then plunged into essence of turpentine. After two or three days' maceration in this fluid, the skeleton is placed in the position in which it is designed to keep it, and dried in the air. In drying, the bones and ligaments become beautifully white, and the whiteness increases as time passes. The same process gives less satisfactory results for muscles. For a parenchymatous organ, on removing it from the turpentine bath, Dr. Frederick plunges it into melted wax or paraffin during half an hour to two hours, till the bubbles of turpentine have ceased to pass off. When withdrawn and cooled, the piece resembles a wax model, but it is far superior in its minor details ; the colour of the organ persists.

HANDLING SHEEP.—Before boys or any other persons are directed to handle sheep, they should be thoroughly impressed with the fact that they must not hold the animals nor lift them by the wool. A great many men will seize the sheep by the wool on the back with both hands, and lift the animal clear from the ground by the wool only. Barbarous ! Let some giant grasp you by the hair of your head, and lift you from the ground by the hair only ! Would you not squiggle and squirm worse than the mute sheep does when lifted by the wool ? Would not there be a complaint of a sore head for a week or two ? If you do not believe it try the experiment. We have slaughtered a great many sheep in years past, and when removing the pelts of such sheep as had been handled by their wool, we never failed to observe that beneath the skin, wherever the animal had been caught by the wool, blood had settled. In many instances the skin had been separated from the body, so that inflammation was apparent. We have known proprietors of sheep to be so strict in regard to handling them, that they would order a helper from the premises if he were to catch a sheep by the wool on any part of the body. Some owners of sheep direct their helpers thus :— "When about to catch a sheep move carefully toward the one to be taken, until you are sufficiently near to spring quickly and seize the beast by the neck with both hands. Then pass one hand around the body, grasp the brisket, and lift the sheep clear from the ground. The wool must not be pulled. If the sheep is a heavy one, let one hand and wrist be put around the neck and the other pressed against the rump." We have always handled sheep in the way alluded to. We never grasp the wool. Others seize the sheep by a hind-leg, then throw one arm about the body and take hold of the brisket with one hand. But ewes with lamb should never be caught by the hind-leg, unless they are handled with extreme care. When sheep are handled roughly, especially if their wool is pulled, the small bruises and injuries will render them more wild and more difficult to handle. It is an excellent practice to provide a "shepherd's crook," consisting of a small

metallic hook, inserted in the end of a handle about as large as a broom-handle. The bow of the hook is made just large enough to fit the neck of a sheep.—*New York Herald.*

HORSE CONSCRIPTION IN GERMANY.—On January 1st a new law with respect to the supply of horses came into force in Germany. According to this law, the country is parcelled out into districts containing approximately 1200 horses apiece, and for each a local commission will be appointed, with the office of summoning the horses for inspection from time to time, and providing a proper quota in the event of mobilisation.

HOW TO USE A DEAD HORSE.—In reply to a correspondent, the editor of the *American Agriculturist* says: A dead horse or other animal should be skinned, and roughly cut up into as many small pieces as possible. A plot of ground a few rods square should then be plouged deeply, and the carcase thrown upon the soil in the centre of the ploughed ground. Some freshly dry-slacked lime should then be scattered upon the heap, so as to cover it thinly but wholly. The loose earth is then to be heaped over it a foot in depth, and the pile covered with boards, so that the dogs cannot get at the heap and tear it up. If the least smell is perceived, more earth should be thrown upon the heap. In three months the heap may be dug over or turned over with the plough, and well mixed. The bones that cannot be broken up should be taken from the heap, and the fine matter will be worth at least 20 dols. per ton, to use in the hill for corn or cotton. The larger bones may be broken up and buried among the roots of grape vines or fruit trees.

HORSES EXPORTED.—The value of horses exported in 1875 was £240,703, against £205,483 in 1874. To France the declared value was £87,961 in 1875.

Correspondence, etc.

PROFESSIONAL PROPRIETY.

To the Editor of the VETERINARY JOURNAL.

SIR,—Mr. Litt's courageous letter in last month's *Veterinary Journal* is an example worthy of imitation, and forcibly shows how very desirable it is that the profession, *as a body*, should be able to express marked disapproval of unprofessional conduct.

We very much need to create a higher feeling of professional etiquette than we at present possess. If the Fellowship degree be only granted after due inquiry that it is deserved, it will be coveted and valued; but it should be refused to those who, no matter what other services they may have rendered, have at the same time, by unprofessional conduct, systematically injured their fellow-practitioners.

The degree being a distinction prized by those who receive it, will thus become a court of reference, and can be used, like similar medical honours, as a means of showing that those chosen for it have obtained the approval of their professional brethren.

If granted on any other terms it will lose its importance, and will become of little account. But, doubtless, those entrusted with its management will be exceedingly strict, and will not be betrayed by mistaken leniency into overlooking what should render a candidate ineligible.

It is very, *very* necessary to create a higher feeling of professional etiquette,

and it can easily be done ; but a *beginning* must be made, and nothing would be more conducive to improvement. The teachers of our Veterinary Colleges can accomplish much in this direction by now and then alluding to the subject during their lectures ; and it can also be judiciously fostered and encouraged at professional meetings, both in and out of the colleges.

It is here suggested that flagrant breaches of professional etiquette should be visited with censure whenever opportunity offers, and that such cases should be deemed a disqualification for the Fellowship.

Your obedient servant,

JAMES LAMBERT, M.R.C.V.S.,
17th Lancers.

Aldershot.

THE FELLOWSHIP DEGREE.

To the Editor of the VETERINARY JOURNAL.

SIR,—No doubt most, if not all, of the readers of your valuable journal, have a deep interest in the welfare of the Veterinary Profession. It will not, therefore, I hope, be considered presumptuous in me to offer a few comments on a subject of importance, and which is, or ought to be, in able hands, and so well taken care of as not to require such feeble aid as I could give it ; but regarding which I feel called on to submit for consideration some remarks, with the view to elicit the opinions of others.

It is not to be wondered at that the creation of a new Degree should meet with the disapproval of many, or, in plain words which will be better understood, the jealousy of those who are not eligible. But it is a grave matter, if the object which should be the main one (promoting the Profession to a higher rank) were overlooked, and in its place we could only find that the interest and honour of a favoured few was studied. If such be the case, all honest men will demand an explanation from those who have had the matter in their hands ; and if it is not satisfactory, then the Profession should set their face against such proceedings, and thus turn the tables,—the so-gained honour becoming a disgrace, and also the absence of our fees, etc., might have a good effect.

It is almost needless to say that I refer to the new Degree of Fellow of the Royal College of Veterinary Surgeons.

I learn by the Suppemental Charter, that a member of the Profession eligible for election without examination must have been fifteen years in practice, and not more than 5 per cent. of the whole number of such members as shall be deemed best by the Council shall be elected.

I would ask, is such unfair play calculated to advance the profession ? On the contrary, it shows, to put it in the mildest terms, want of due consideration on the part of those who profess to be its leaders, and as such have obtained the new Charter, under which it is proposed to grant such fellowships ; surely the present holders of diplomas should protest against such injustice.

We who studied, and at present hold the highest degree that could be gained during our college career, stand on equal footing respecting our scientific attainments : who therefore is to be our examiners? The empty-titled, self-exalted few who have not been examined, and have in the already described strange manner just come out from amongst us. Science is advancing in all its branches, and the theories of the old school and the present vary much, therefore it would be on this ground objectionable ; then on the other hand, those who have obtained their Diplomas, and subsequently had years of practical experience, would it not be absurd for some new-fledged theorist to become their examiners, inasmuch as the most learned,

scientific, and successful practitioner of long experience, who on a scientific subject of some pathological importance, let it be the anatomical structure relative to operation or disease, physiological difficulties, etc., in connection with the same chemical action, changes, etc., or the influence of medicine under these circumstances,—such a man would show his superiority in a debate, or better still when an animal required his aid, whereas at a board of examiners a short simple question might only at the time annoy and confuse him; in fact, few men of forty could pass the schoolboy's examination of fifteen. It also is inconsistent that long years of practice is essential to make one eligible for examination; and as I read in your journal the committee have decided that the examination is to be more scientific than practical, this is absolutely ridiculous, especially when by the same source I see that they have also come to the conclusion to refuse the honour rather than diffuse it too liberally.

I also see (by some strange freak) on the committee the names of some, who by the Registry should not be eligible. In my opinion the Council have made matters worse. The alteration makes eligible some who previously were not, and excludes others who previously by the former rules were entitled. A list of the proposed names with the Registry in hand will at once show those I allude to, but not having permission from them I do not here give their names. The alteration seems to have been made purely for the purpose of admitting a special few, and not for the benefit of the profession at large; and indeed I may say most of them are better adepts with their pens than their knives, and their books and not their patients; and these are the persons chosen by a council to obtain a degree, which object should be to raise the profession by granting a special honour for practical ability, for such I believe is the Charter. I sincerely hope my object will not be misunderstood; it is simply that I am convinced that this matter should be treated as we do a deep-seated fistula. We probe not to give pain. We examine the exuding matter not for the sweetness of its odour. Nor yet do we use the knife freely to intimidate the patient to get well, or the owner for the fee.

Hoping you will give the above a space in your valuable journal,

I am, sir,

Yours respectfully,

JAMES MCKENNY, M.R.C.V.S.

Dublin, *February 3rd*, 1877.

[We publish the foregoing letter, as we think it desirable that both sides of any question referred to in the *Journal* should be heard. We are far, however, from agreeing with the writer, though we give him full credit for his motives. In the election of a limited number of eminent men of *fifteen years' standing* in the profession, as Fellows without examination, the Council, by the powers conferred by the Supplementary Charter, is only following the course which had to be pursued by the Royal College of Surgeons and other medical corporations. The Council, in our opinion, must be entirely exonerated from anything like a charge of jobbery; indeed, it appears to have scrupulously abstained from exercising its power in favour of friends, and has adopted such a standard of qualification as will be appreciated by the profession—such as professors and examiners of five years, presidents of the Royal College and of Veterinary Medical Societies, authors, and those distinguished for original research, specially qualified members of Council, and others who have similar claims to the distinction. We fancy that all who have been elected are not behind their brethren in that unknown quantity "practical ability," as distinguished from the ability to read or write a book, to describe fairly well an interesting case, or even to write a letter. For

the last eighty years we have heard rather much of "practical ability," which the empiric claims as well as ourselves; and far too little of the other abilities, which constitute the difference between the roadside farrier or cowleech and the professional man. Practical ability is only too often made a plea for the absence of ability in general. A man need not be the worse practitioner because he can write a letter or describe a case of disease, nor need he even be utterly devoid of practical ability should he be enthusiastic enough to have made sacrifices to write a book for the benefit of the veterinary profession. Not long ago, when the "practical man" was the ruling spirit, and the educated workers, who might have been counted on the fingers of one hand, were set down and ridiculed as theorists, the veterinary profession in this country was designated "ignorant and barbarous" by the leading organs of public opinion. We will not say that this was at all deserved; but it has compelled the Council to move in the right direction, and to take a step which will place a far wider gap between the uneducated and the educated *practical* man than has heretofore existed.

Of the future standard of qualification for the degree of Fellow by examination, the Council, which will hereafter be elected by the votes of the whole profession, will probably be better able to judge than our correspondent.]

PROFESSIONAL TOPICS.

To the Editor of the VETERINARY JOURNAL.

SIR,—I have read Mr. Litt's letter on "Professional Propriety" in last month's *Journal* with much pleasure, as I know only too well from personal experience that the abuse he mentions is one of the greatest stumbling-blocks in the way of those members of the profession who, like myself, are earnestly desirous of raising it in the public estimation to the position it deserves to occupy. I think, besides looking to the future, it is high time we found some mode of practically testifying our disapproval of such conduct as Mr. Litt describes; and I suggest that such offenders should neither have the Fellowship degree, nor be members of Council, when any case of unprofessional behaviour has been proved against them. This would serve as a check in some instances, though the evil is too deeply rooted to be effectually eradicated until a more severe educational standard is insisted on. Another class who do great harm are those whose conversation, when you happen to meet them, chiefly consists of, "I was out at six this morning, rolled my sleeves up, fastened two shoes on, afterwards blistered a leg or two, then gave a horse an enema," etc., etc.,—all this said with a kind of bravado, and a sneer at the more enlightened veterinary surgeon, who refuses to do this sort of thing, as he can see it efficiently carried out by a groom or blacksmith, but in an emergency is not above using his own hands for the purpose. What would the officers of a cavalry regiment think of a sample of this sort? His position would dwindle at once into that of a Farrier-Major, and he would be shunned by all of them; though they, as a rule, are quick to recognise and appreciate a man who has a due regard for himself and knows the ways of good society. It is also essential that a veterinary surgeon should be well read on all subjects that occupy the attention of educated men: such as the government of the country, our relations with foreign nations and their politics, the current literature, etc., and be able to feel himself at home in a general conversation with the country squire or shrewd business man, neither of whose avocations require half the brains of those who practically treat the diseases of the lower animals.

There has been much talk lately of the Fellowship degree, and the lucky

ones who are to receive the honour without passing an examination. I am delighted to give praise to many worthy men who have been toiling for years for the good of our cause; still there are some who have done literally nothing to deserve the honour, and simply because they come within the fifteen years' clause they can have it by merely paying ten guineas. Now I would suggest that a few, say twenty out of a hundred, who have been in practice ten years, and have shown any zeal for the advancement of the profession, be balloted for and admitted on the same terms, as in my opinion they can be credited with as much ability as the older men. There is another clause which is absorbing great attention here,—the one which provides that, in addition to the examination, the younger aspirant should have to pay an increased fee. This alone will prevent many from seeking the distinction, on account of their being unable to afford the fifteen guineas; and I think it would have been more reasonable if that had been demanded of the older candidates.

I am, sir, yours faithfully,
ALEXANDER LAWSON, M.R.C.V.S.

Manchester, *February 14th*, 1877.

PROUT *v.* PARADISE.

To the Editor of the VETERINARY JOURNAL.

[We have been requested by Mr. Broad, Bath, to publish the following communication.]

"17, St. John's Hill, Shrewsbury, *February 4th*, 1877.

"MY DEAR SIR,—Annexed you will find cheque value £2 2*s*., which I beg you will place to account of the 'Paradise Fund.' I consider it the duty of every member of the profession to do all he can towards indemnifying Mr. Paradise, and protesting against the very unprofessional conduct of those veterinary surgeons who gave evidence for the plaintiff. I have not the least objection to your publishing this letter if you think well so to do.

"Believe me, my dear sir,
"Yours very faithfully,
"W. E. LITT, M.R.C.V.S.

"T. D. Broad, Esq."

POISONING BY CARBOLIC ACID.

To the Editor of the VETERINARY JOURNAL.

SIR,—In the December number of the *Veterinary Journal* we notice an article on injury to horses by the use of Carbolic Acid. It is our impression that the acid has not been thoroughly dissolved when applied, and that, in consequence, portions of raw acid have caused the results reported. When first our product was used against Scab in sheep, many accidents occurred, and for the same reason; but we have remedied this by making a preparation (containing 70 per cent. of genuine carbolic acid) which is very readily soluble in water, and can therefore be more safely used. Of this preparation we are sending you a sample, and we shall be glad if you will have it *tested* when opportunity offers, especially against "greasy heel."

Along with the "Cattle-wash" we have placed samples of other carbolic preparations that you may perhaps think worth trial.

Some veterinary surgeons are making much use of our 10 per cent. Carbolic Soft Soap, and there is *no doubt* that the Carbolic 15 per cent. Powder

can be employed in stable and shippons with decided benefit to the health of the animals housed therein.

We are certain that Carbolic Acid deserves much consideration by veterinarians, because of its proven value as an anti-ferment; and it (No. 4 quality) might probably be administered *internally* to cattle and horses with much benefit in cases where the mucous membrane of the stomach has become inflamed, or its contents set into a condition of ferment.

Respectfully yours,

F. C. CALVERT AND CO.

Tower Chemical Works, Bradford, Manchester. (R. Redmayne.)

ANSWERS TO CORRESPONDENTS.

JAS. C. CORLIES, NEW JERSEY.—There is no P. R. Courtney in the Register of the Royal College of Veterinary Surgeons. The person you allude to cannot, therefore, be a graduate of the Royal College. We are unable to discover that Charles W. Fawns graduated in Edinburgh in 1859-60. The name does not appear in the Register.

A. H. T.—We believe there is only one veterinary journal published in Spain. We shall procure it, and will gladly avail ourselves of your kind offer.

W. BROUGHTON, LEEDS.—Up to the moment of our going to press, we have not received the report of the proceedings of the Yorkshire Veterinary Medical Society from the Editors of the *Veterinarian*.

COMMUNICATIONS from T. D. Broad, "Nemo," "Max," G. Gray, R. Poyser, W. Woods, W. E. Litt, J. M. Parker, J. W. T. Moore, P. Beattie, W. A. Cox, G. Fleming, and others, are unavoidably pressed out of this number. They will appear in our next.

Communications, Letters, Books, etc., Received.

COMMUNICATIONS have been received from R. Reynolds, Liverpool; Professor Smith, Toronto; J. W. Hill, Wolverhampton; J. Rowe, London; W. Dacre, Manchester; J. McKenny, Dublin; S. Knott, Royal Artillery, Shorncliffe; R. Redmayne, Manchester; J. C. Corlies, New Jersey, U.S.A.; J. Lambert, 17th Lancers, Aldershot; A. E. Macgillivray, Banff; J. M. Parker, Birmingham; J. W. Moore, Liverpool; R. Poyser, The Carabineers, York; W. Woods, Wigan; W. Broughton, Leeds; W. A. Cox, Manchester; W. E. Litt, Shrewsbury; T. D. Broad, Bath; "Nemo"; G. Gray, Bakewell; A. Lawson, Manchester; P. Beattie, Bogfern.

BOOKS: Veterinair-Kalendar für das Jahr 1877; *G. Thin, M.D.*, The Connective Tissue Question; *H. Reece, M.R.C.S.*, Foot-and-Mouth Disease; its Treatment and Cure; *Peuch et Toussaint*, Précis de Chirurgie Vétérinaire.

JOURNALS: *Oesterreichische Vierteljahresschrift f. Wissen Veterinärkunde; Recueil de Méd. Vétérinaire; Wochenschrift für Thierheilkunde; Archiv. für Wissen. und Practische Thierheilkunde; Practitioner; Edinburgh Medical Journal; British Medical Journal; American Veterinary Review; National Live Stock Journal; Abeille Medicale; Archives Vétérinaires; Journal de Méd. Vétérinaire; Deutsche Zeitschrift für Thiermedicin; Annales de Méd. Vétérinaire.*

NEWSPAPERS, etc.: *Toronto Mail; Toronto Globe; Lancet; British Medical Journal; Wigan Observer; Agricultural Gazette; Farmer; Daily Telegraph; Live Stock Journal; Home Chronicler; Melbourne Argus; Wilts and Gloucestershire Standard; Herts and Essex Observer; Spirit of the Times; Leeds Mercury; Montreal Daily Witness.*

All Communications, Books for Review, Advertisements, etc., must be addressed to the Publisher, 20, King William Street, Strand, W.C.

Morbid Specimens are to be forwarded addressed to the Editor, "Veterinary Journal," Brown Institution, Wandsworth Road, London.

Communications must be accompanied by the name of the writer, whether he may desire to have it published or not. Anonymous letters and articles cannot be inserted. The Editor does not hold himself identified with the views or opinions expressed by Contributors. Communications for insertion in the next number must arrive on or before the 15th of the present month.